EUGENOL
BATCH:
4441004

EUG0001

CAS#: 97-53-0

FEMA#: 2467

CERTIFICATE OF ANALYSIS

PRODUCT IDENTIFICATION	
PRODUCT NAME	EUGENOL
MOLECULAR FORM	C10 H12 O2
MOLECULAR WT	164.20
MELTING POINT (C)	
BOILING POINT (C)	256 deg C
FLASH POINT (F) SHELF	213 deg F
LIFE (DAYS)	730
BEST BEFORE DATE	AUGUST 2027

PHYSICAL SPECIFICATIONS	**RANGE**	**RESULTS**
APPEARANCE	COLORLESS TO PALE YELLOW LIQUID	CONFORMS
ODOR	STRONG AROMATIC ODOR OF CLOVE, POWERFUL WARM-SPICY	CONFORMS
SPECIFIC GRAVITY (25C)	1.0640 to 1.0700	1.0647
REFRACTIVE INDEX (20C)	1.5400 to 1.5420	1.5408
SOLUBILITY	SLIGHTLY SOLUBLE IN WATER; MISCIBLE IN ALCOHOL, OILS; SOLUBLE IN PROPYLENE GLYCOL, 1 mL in 2 mL 70% ALCOHOL	CONFORMS
ANALYTICAL SPECIFICATIONS	**RANGE**	**RESULTS**
PURITY (BY GC)	99.0% MIN	99.39%
OTHER SPECIFICATIONS	**RANGE**	**RESULTS**
LIMIT OF PHENOL	PASSES TEST	
DIMERIC / OGLIOMERIC COMPOUNDS	ABSORBANCE AT 330 NM <0.25	
RELATED SUBSTANCES	PASSES TESTS	
HYDROCARBONS	PASSES TEST	
SULFATED ASH	0.1% MAXIMUM (DETERMINED ON 1G)	

STABILITY

STABLE UNDER NORMAL CONDITIONS

STORAGE

STORE IN COOL DRY PLACE AWAY FROM HEAT AND SUNLIGHT.
SHELF LIFE CONSIDERATIONS APPLY ONLY FOR ORIGINAL UNOPENED CONTAINERS

COMMENTS

PRODUCT MEETS THE REQUIREMENTS SET FORTH BY USP38

Date Revised: 20/08/2019

FRAGRANCE ALLERGENS

Madar Corporation Limited hereby certifies that:

EUGENOL

Contains the following fragrance substances and natural extracts (essential oils) which are 'established contact allergens in humans' according to the Scientific Committee on Consumer Safety.

	Allergen	CAS number	Content %
1	*Acetyl cedrene*	32388-55-9	-
2	*Amyl cinnamal*	122-40-7	-
3	*Amylcinnamyl alcohol*	101-85-9	-
4	*Amyl salicylate*	2050-08-0	-
5	*trans-Anethole*	4180-23-8	-
6	*Anisyl alcohol*	105-13-5	-
7	*Benzaldehyde*	100-52-7	-
8	*Benzyl alcohol*	100-51-6	-
9	*Benzyl benzoate*	120-51-4	-
10	*Benzyl cinnamate*	103-41-3	-
11	*Benzyl salicylate*	118-58-1	-
12	*Butylphenyl methylpropional (Lilial)**	80-54-6	-
13	*Camphor*	76-22-2 464-49-3	-
14	*beta-Caryophyllene*	87-44-5	-
15	*Carvone*	99-49-0 / 6485-40-1 / 2244-16-8	-
16	*Cinnamal*	104-55-2	-
17	*Cinnamyl alcohol*	104-54-1	-
18	*Citral*	5392-40-5	-
19	*Citronellol*	106-22-9 / 1117-61-9 / 7540-51-4	-
20	*Coumarin*	91-64-5	-
21	*Damascenone (Rose ketone-4)*	23696-85-7	-
22	*alpha-Damascone*	43052-87-5 / 23726-94-5	-
23	*cis-beta-Damascone*	23726-92-3	-
24	*delta-Damascone*	57378-68-4	-
25	*Dimethyl benzyl carbinyl acetate*	151-05-3	-

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26	*Eugenol*	97-53-0	100%
27	*Farnesol*	4602-84-0	-
28	*Geraniol*	106-24-1	-
29	*Hexadecanolactone*	109-29-5	-
30	*Hexamethylindanopyran (Galaxolide)*	1222-05-5	-
31	*Hexyl cinnamal*	101-86-0	-
32	*Hydroxyisohexyl 3-cyclohexene carboxaldehyde (Lyral)**	31906-04-4 / 51414-25-6	-
33	*Hydroxycitronellal*	107-75-5	-
34	*Isoeugenol*	97-54-1	0.02%
35	*alpha -Isomethylionone*	127-51-5	-
36	*(DL)-Limonene*	5989-27-5	-
37	*Linalool*	78-70-6	-
38	*Linalyl acetate*	115-95-7	-
39	*Menthol*	1490-04-6 / 89-78-1 / 2216-51-5	-
40	*6-Methyl coumarin*	92-48-8	-
41	*Methyl 2-octynoate*	111-12-6	-
42	*Methyl salicylate*	119-36-8	-
43	*3-Methyl-5-(2,2,3-trimethyl-3-cyclopentyl) pent-4-en-2-ol*	67801-20-1	-
44	*alpha-Pinene*	80-56-8	-
44	*beta-Pinene*	127-91-3	-
45	*Propylidene phtalide*	17369-59-4	-
46	*Salicylaldehyde*	90-02-8	-
47	*alpha-Santanol*	115-71-9	-
47	*beta-Santanol*	77-42-9	-
48	*Sclareol*	515-03-7	-
49	*Terpineol (Mixture of isomers)*	8000-41-7	-
50	*alpha-Terpineol*	10482-56-1 / 98-55-5	-
51	*Terpinolene*	586-62-9	-
52	*Tetramethyl acetylooctahydronaphthalenes*	54464-57-2 / 54464-59-4 / 68155-66-8 / 68155-67-9	-
53	*Trimethyl-benzenepropanol (Majantol)*	103694-68-4	-
54	*Vanillin*	121-33-5	-
55	*Cananga odorata (Ylang-ylang oil)*	83863-30-3 / 8006-81-3	-
56	*Cedrus atlantica bark oil*	92201-55-3 / 8000-27-9	-
57	*Cinnamomum cassia leaf oil* *Cinnamomum zeylanicum bark oil*	8007-80-5 84649-98-9	-
58	*Citrus autantium amara flower / peel oil*	8016-38-4 / 72968-50-4	-
59	*Citrus bergamia peel oil expressed*	89957-91-5	-
60	*Citrus limonum peel oil expressed*	84929-31-7	-
61	*Citrus sinensis peel oil expressed*	97766-30-8 / 8028-48-6	-
62	*Cymbopogon citratus, schoenanthus oils*	89998-14-1 / 8007-02-1 / 89998-16-3	-
63	*Eucalyptus spp. Leaf oil*	92502-70-0 / 8000-48-4	-
64	*Eugenia caryophyllus leaf / flower oil*	8000-34-8	-

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65	*Evernia furduracea (Treemoss) extract*	90028-67-4	-
66	*Evernia prunastri (Oakmoss) extract*	90028-68-5	-
67	*Jasminum grandiflorum / officinale*	84776-64-7 / 90045-94-6 / 8022-96-6	-
68	*Juniperus virginiana*	8000-27-9 / 85085-41-2	-
69	*Laurus nobilis*	8002-41-3 / 8007-48-5 / 84603-73-6	-
70	*Lavandula hybrida*	91722-69-9	-
71	*Lavandula officinalis*	84776-65-8	-
72	*Mentha piperita*	8006-90-4 / 84082-70-2	-
73	*Mentha spicata*	84696-51-5	-
74	*Myroxylon pereirae*	8007-00-9	-
75	*Narcissu spp.*	Diverse	
76	*Pelargonium graveolens*	90082-51-2 / 8000-46-2	-
77	*Pinus mugo / pumila*	90082-72-7 / 97676-05-6	-
78	*Pogostemon cablin*	8014-09-3 / 84238-39-1	-
79	*Rosa spp. (Rose)*	Diverse	-
80	*Santalum album*	84787-70-2 / 8006-87-9	-
81	*Turpentine oil*	8006-64-2 / 9005-90-7 / 8052-14-0	-
82	*Verbena absolute*	8024-12-2	-

*The information contained in this document is accurate to the best of our knowledge at the time given. This document is provided for internal use only. Tilley Distribution UK is not liable for any damages that may result from the misuse of data. Content values are given as an average of recently delivered batches. Absent means <1ppm or not detectable. *No longer permitted in cosmetics in the European Union and has been delisted from Annex III.*

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PROCESS FLOW CHART

EUGENOL

Madar Corporation Limited hereby certifies that the products has no added antioxidants, diluents, colorants or preservatives, nor are any solvents used in the extraction process.

IFRA CERTIFICATE

EUGENOL

Madar Corporation Limited hereby certifies that the above material complies with the requirements of the INTERNATIONAL FRAGRANCE ASSOCIATION - IFRA-51st Amendment / published June 30th 2023 provided it is used in following applications (class) at a maximum concentration level of:

IFRA category	Maximum level of use (%)
Class 1	0.45%
Class 2	0.14%
Class 3	1.00%
Class 4	2.50%
Class 5A	0.64%
Class 5B	0.64%
Class 5C	0.64%
Class 5D	0.21%
Class 6	1.50%
Class 7A	2.00%
Class 7B	2.00%
Class 8	0.21%
Class 9	4.90%
Class 10A	4.00%
Class 10B	18.00%
Class 11A	0.21%
Class 11B	0.21%
Class 12	Not restricted

The above values were calculated based on the following IFRA restricted materials:

<eugenol – 100%, methyl eugenol - <0.01%>

Date of issue: 18/08/2023

The IFRA Standards regarding use restrictions are based on safety assessments by the Panel of Experts of the RESEARCH INSTITUTE FOR FRAGRANCE MATERIALS (RIFM) and are enforced by the IFRA Scientific Committee.
It is the ultimate responsibility of our customer to ensure the safety of the final product by further testing if need be.
Evaluation of the Fragrance ingredient was made according to the safety requirements contained in the relevant section of the IFRA Code of Practice.

IFRA category includes	IFRA category
Children's toys, Lip Products of all types (solid and liquid lipsticks, balms, clear or coloured etc…) (****)	Class 1
Deodorant and Antiperspirant products of all types (spray, stick, roll-on, under-arm and body etc...), Body sprays (including body mist)	Class 2
Eye products of all types (eye shadow, mascara, eyeliner, eye make-up, eye masks, eye pillows, etc.) including eye care and moisturizer; Facial make up and foundation; Make-up remover for face and eyes; Nose pore strips; Wipes or refreshing tissues for face, neck, hands, body; Body and face paint (for children and adults); Facial masks for face and around the eyes	Class 3
Hydroalcoholic and non-hydroalcoholic fine fragrance of all types (Eau de Toilette, Parfum, Cologne, solid perfume, fragrancing cream, aftershaves of all types, etc.); Fragranced bracelets; Ingredients of perfume kits and fragrance mixtures for cosmetic kits; Scent pads, foil packs; Scent strips for hydroalcoholic products	Class 4
Body creams, oils, lotions of all types; Foot care products (creams and powders); Insect repellent (intended to be applied to the skin); All powders and talc (excluding baby powders and talc)	Class 5A
Facial toner; Facial moisturizers and creams	Class 5B
Hand cream; Nail care products including cuticle creams, etc.	Class 5C
Baby cream/lotion, baby oil, baby powders and talc	Class 5D
Mouthwash, including breath sprays; Toothpaste; Toothpowder, strips, mouthwash tablets (****)	Class 6
Hair permanent or other hair chemical treatments (rinse-off) (e.g. relaxers), including rinse-off hair dyes	Class 7A
Hair sprays of all types (pumps, aerosol sprays, etc.); Hair styling aids non sprays (mousse, gels, leave- on conditioners); Hair permanent or other hair chemical treatments (leave-on) (e.g. relaxers), including leave-on hair dyes; Shampoo - Dry (waterless shampoo); Hair deodorizer	Class 7B
Intimate wipes; Tampons; Baby wipes; Toilet paper (wet)	Class 8
Bar Soap; Shampoo off all type; Cleanser for face (rinse off); Conditioner (rinse off); Liquid Soap; Body washes and shower gels of all types; Baby wash, bath, shampoo; Bath gels, foams, mousses, salts, oils and other products added to bathwater; Foot care products (feet are placed in a bath for soaking); Shaving creams of all types (stick, gels, foams, etc.); All depilatories (including facial) and waxes for mechanical hair removal; Shampoos for pets	Class 9
Hand wash laundry detergent (including concentrates); Laundry pre-treatment of all types (e.g. paste, sprays, sticks); Hand dishwashing detergent (including concentrates); Hard surface cleaners of all types (bathroom and kitchen cleansers, furniture polish, etc.); Machine laundry detergents with skin contact (e.g. liquids, powders) including concentrates; Dry cleaning kits; Toilet seat wipes; Fabric softeners of all types including fabric softener sheets; Household cleaning products, other types including fabric cleaners, soft surface cleaners, carpet cleaners, furniture polishes sprays and wipes, leather cleaning wipes, stain removers, fabric enhancing sprays, treatment products for textiles (e.g. starch sprays, fabric treated with fragrances after wash, deodorizers for textiles or fabrics); Floor wax; Fragranced oil for lamp ring, reed diffusers, pot-pourri, liquid refills for air fresheners (non-cartridge systems), etc; Ironing water (Odorized distilled water)	Class 10A
Animal sprays – sprays applied to animals of all types; Air freshener sprays, manual, including aerosol and pump; Aerosol/spray insecticides	Class 10B
Feminine hygiene conventional pads, liners, interlabial pads; Diapers (baby and adult); Adult incontinence pant, pad; Toilet paper (dry);	Class 11A
Tights with moisturizers; Scented socks, gloves; Facial tissues (dry tissues); Napkins; Paper towels; Wheat bags; Facial masks (paper/protective) e.g. surgical masks not used as medical device; Fertilizers, solid (pellet or powder)	Class 11B
Candles of all types (including encased); Laundry detergents for machine wash with minimal skin contact (e.g. Liquid tabs, pods); Automated air fresheners and fragrancing of all types (concentrated aerosol with metered doses (range 0.05-0.5mL/spray), plug-ins, closed systems, solid substrate, membrane delivery, electrical, powders, fragrancing sachets, incense, liquid refills (cartridge), air freshening crystals); Air delivery systems; Cat Litter; Cell phone cases; Deodorizers/maskers not intended for skin contact (e.g. fabric drying machine deodorizers, carpet powders); Fuels; Insecticides (e.g. mosquito coil, paper, electrical, for clothing) excluding aerosols/sprays; Joss sticks or incense sticks; Dishwash detergent and deodorizers – for machine wash; Olfactive board games; Paints; Plastic articles (excluding toys); Scratch and sniff; Scent pack; Scent delivery system (using dry air technology); Shoe polishes; Rim blocks (Toilet)	Class 12

(****) Fragrance materials for use in these applications need also FEMA-GRAS conformity.

Date of issue: 18/08/2023

Safety Data Sheet

This safety data sheet was created pursuant to the requirements of:
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008

Product name
EUGENOL

Issuing Date 06-Jan-2023

Revision date 06-Jan-2023 **Version** 7

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name	EUGENOL
REACH registration number	01-2119971802-33-0000
EC No (EU Index No)	202-589-1
CAS No	97-53-0
Chemical Name	1-Hydroxy-2-Methoxy-4-Propenylbenzene
Pure substance/mixture	Substance

Contains Eugenol

Formula	C10H12O2
Molecular weight	164.20

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use	Industry Use
Uses advised against	No information available

1.3. Details of the supplier of the safety data sheet

Supplier
Madar Corporation Limited
19 - 20 Sandleheath Industrial Estate
Fordingbridge
SP6 1PA
Tel: (+44) 1425 655 555
For further information, please contact

E-mail address **technical@madarcorporation.co.uk**

Non-Emergency Telephone Number **+44 (0)1425 655 555**

1.4. Emergency telephone number

Emergency telephone CHEMTREC

Emergency telephone - +1-703-741-5970	
Europe	**CCN# 17256**

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Serious eye damage/eye irritation	Category 2 - (H319)
Skin sensitization	Category 1B - (H317)

2.2. Label elements

Contains Eugenol

Signal word
Warning

Hazard statements
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation

Precautionary Statements - EU (§28, 1272/2008)
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337 + P313 - If eye irritation persists: Get medical advice/attention
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

2.3. Other hazards

Causes mild skin irritation. Toxic to aquatic life. May be harmful if swallowed.

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical nature Phenols.

Chemical name	Weight-%	REACH registration number	EC No (EU Index No)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Eugenol 97-53-0	NF	No data available	-	Acute Tox. 5 (H303) Skin Irrit. 3 (H316) Eye Irrit. 2A (H319)	-	-	-

				Skin Sens. 1B (H317) Aquatic Acute 2 (H401)			

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate
No information available

This product does not contain candidate substances of very high concern at a concentration >=0.1% (Regulation (EC) No. 1907/2006 (REACH), Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance.

Inhalation Remove to fresh air.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.

Skin contact Wash with soap and water. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician.

Ingestion Rinse mouth. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician.

Self-protection of the first aider Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

4.2. Most important symptoms and effects, both acute and delayed

Symptoms Itching. Rashes. Hives. May cause redness and tearing of the eyes. Burning sensation. Prolonged contact may cause redness and irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians May cause sensitization in susceptible persons. Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical Product is or contains a sensitizer. May cause sensitization by skin contact.

Hazardous combustion products Irritating or toxic substances may be emitted upon burning, combustion, or decomposition.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
Other information	Refer to protective measures listed in Sections 7 and 8.
For emergency responders	Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions	See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Take up mechanically, placing in appropriate containers for disposal.
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections	See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.
General hygiene considerations	Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place.

7.3. Specific end use(s)

Risk Management Methods (RMM)	The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
Biological occupational exposure limits	This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.
Derived No Effect Level (DNEL)	Workers.
dermal	6 mg/kg bw/day
Inhalation	21.2 mg/m³
Predicted No Effect Concentration (PNEC)	
Fresh Water	1.13 µg/L
Sea Water	0.113 µg/L
Sea sediment	0.0081 mg/kg sediment d.w.
Soil	0.0155 mg/kg soil d.w.

8.2. Exposure controls

Engineering controls	No information available.
Personal Protective Equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles).
Hand protection	Wear suitable gloves.
Skin and body protection	Wear suitable protective clothing.
Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
General hygiene considerations	Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.
Environmental exposure controls	No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Clear
Color	Colorless to Pale Yellow
Odor	Characteristic odor.
Odor threshold	No information available

Property	Values	Remarks • Method
Melting point / freezing point	-8 °C	
Boiling point / boiling range	248 °C	
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability limit:	No data available	
Lower flammability limit:	No data available	
Flash Point	100 °C	CC (closed cup)
Autoignition Temperature	No data available	None known
Decomposition temperature		None known
pH	No data available	None known
pH (as aqueous solution)	No data available	None known

Kinematic viscosity	8.39 mPa s	(25°C)
Dynamic viscosity	No data available	None known
Water solubility	No data available	(20°C)
solubility(ies)	No data available	None known
Partition coefficient	Log Kow=1.83	(30°C)
Vapor pressure	0.004kPa	(25°C)
Relative density	1.0640 - 1.0700	(25°C)
Bulk Density	No data available	
Density	No data available	
Vapor Density	No data available	None known
Particle characteristics		
Particle Size	No information available	
Particle Size Distribution	No information available	

9.2. Other information

Molecular weight	164.20
Refractive Index	1.5400 - 1.5420

9.2.1. Information with regard to physical hazard classes

Not applicable

9.2.2. Other safety characteristics

No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity No information available.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.
Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid None known based on information supplied.

10.5. Incompatible materials

Incompatible materials None known based on information supplied.

10.6. Hazardous decomposition products

Hazardous Decomposition Products None known based on information supplied.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.
Eye contact	Avoid contact with eyes. Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.
Skin contact	May cause sensitization by skin contact. Specific test data for the substance or mixture is not available. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components). May cause irritation. Prolonged contact may cause redness and irritation. Causes mild skin irritation.
Ingestion	Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	Itching. Rashes. Hives. May cause redness and tearing of the eyes. Prolonged contact may cause redness and irritation.

Acute toxicity

Numerical measures of toxicity
No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	Classification based on data available for ingredients. Causes mild skin irritation.
Serious eye damage/eye irritation	Classification based on data available for ingredients. Causes serious eye irritation.
Respiratory or skin sensitization	May cause an allergic skin reaction.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	Not classified.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties No information available.

11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity Toxic to aquatic life.

12.2. Persistence and degradability

Persistence and degradability Readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulation

Component Information

Chemical name	Partition coefficient
Eugenol	2.49

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

12.6. Other adverse effects

Endocrine disrupting properties No information available.

12.7. Other adverse effects
No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

SECTION 14: Transport information

IATA
14.1 UN number or ID number Not regulated

14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

IMDG

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None
14.7 Maritime transport in bulk according to IMO instruments	No information available

RID

14.1 UN/ID no	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

ADR

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

Germany

Water hazard class (WGK)	slightly hazardous to water (WGK 1)

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Authorizations and/or restrictions on use:

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants

Not applicabl

Ozone-depleting substances (ODS) regulation (EC) 1005/2009
Not applicable

International Inventories

TSCA	Contact supplier for inventory compliance status
DSL/NDSL	Contact supplier for inventory compliance status
EINECS/ELINCS	Contact supplier for inventory compliance status
ENCS	Contact supplier for inventory compliance status
IECSC	Contact supplier for inventory compliance status
KECL	Contact supplier for inventory compliance status
PICCS	Contact supplier for inventory compliance status
AICS	Contact supplier for inventory compliance status
NZIoC	Contact supplier for inventory compliance status

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

15.2. Chemical safety assessment

Chemical Safety Report No information available

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of H-Statements referred to under section 3
H303 - May be harmful if swallowed
H316 - Causes mild skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H401 - Toxic to aquatic life

Legend
SVHCL

LEG8 SECTION 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
+	Sensitizers		

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapor	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method

Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitization	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS
Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
European Chemicals Agency (ECHA) (ECHA_API)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Revision date 06-Jan-2023

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006
Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text
Classification and labeling according to the IFRA/IOFI Labeling Manual 2022.

End of Safety Data Sheet

EUGENOL

CAS#: 97-53-0

FEMA#: 2467

PRODUCT SPECIFICATION

PRODUCT IDENTIFICATION	
PRODUCT NAME	EUGENOL
MOLECULAR FORM	C10 H12 O2
MOLECULAR WT	164.20
MELTING POINT (C)	
BOILING POINT (C)	256 deg C
FLASH POINT (F)	213 deg F
SHELF LIFE (DAYS)	730

PHYSICAL SPECIFICATIONS	RANGE	METHOD
APPEARANCE	COLORLESS TO YELLOW LIQUID	VISUAL
ODOR	STRONG AROMATIC ODOR OF CLOVE, POWERFUL WARM-SPICY	ORGANOLEPTIC
SPECIFIC GRAVITY (25C)	1.0640 to 1.0700	FCC METHOD
REFRACTIVE INDEX (20C)	1.5400 to 1.5420	FCC METHOD
SOLUBILITY	SLIGHTLY SOLUBLE IN WATER; MISCIBLE IN ALCOHOL, OILS; SOLUBLE IN PROPYLENE GLYCOL, 1 mL in 2 mL 70% ALCOHOL	FCC METHOD

ANALYTICAL SPECIFICATIONS	RANGE	METHOD
PURITY (BY GC)	99.0% MIN	QC_30.M

OTHER SPECIFICATIONS	RANGE	METHOD
LIMIT OF PHENOL	PASSES TEST	USP METHOD
DIMERIC / OGLIOMERIC COMPOUNDS	ABSORBANCE AT 330 NM <0.25	BP/EP METHOD
RELATED SUBSTANCES	PASSES TESTS	BP/EP METHOD
HYDROCARBONS	PASSES TEST	BP/EP METHOD
SULFATED ASH	0.1% MAXIMUM (DETERMINED ON 1G)	BP/EP METHOD

STABILITY

STABLE UNDER NORMAL CONDITIONS

STORAGE

STORE IN COOL DRY PLACE AWAY FROM HEAT AND SUNLIGHT.
SHELF LIFE CONSIDERATIONS APPLY ONLY FOR ORIGINAL UNOPENED CONTAINERS

COMMENTS

PRODUCT MEETS THE REQUIREMENTS SET FORTH BY USP38

Date Revised: 31/01/2023

VEGAN / VEGETARIAN DECLARATION

EUGENOL

to the best of our knowledge is suitable for both vegan and vegetarian lifestyles.

Date of issue: 06/08/2021