

500153 EUGENOL FCC

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1. IDENTIFICATION

Product Description:	EUGENOL FCC	
CAS #	97-53-0	
FEMA Number	2467	
Other means of identification Vigon Item #	500153	
Recommended use	Concentrated aromatic and flavor ingredient which may be used in flavor and fragrance compounds according to legal and IFRA or FEMA GRAS/FDA guidelines.	
Recommended restrictions	For Manufacturing Use Only	
<u>Company</u>	24 Hour Emergency Response Information	
Vigon International, Inc.	INFOTRAC (ACCT# 78928);	
127 Airport Road	1-800-535-5053 WITHIN THE U.S.A.	
E. Stroudsburg, PA 18301	1-352-323-3500 OUTSIDE THE U.S.A.	
For information call: 570-476-6300		
Web Site: www.vigon.com		

2. HAZARD(S) IDENTIFICATION

Physical hazards	Not classified.	
Health hazards	Acute toxicity, oral	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Sensitization, skin	Category 1
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 2
	Hazardous to the aquatic environment, long-term hazard	Category 2

Label elements



Signal word

H302	Harmful if swallowed.
H315	Causes skin irritation.
H315 + H320	Causes skin and eye irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H401	Toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.



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Precautionary statement	
Prevention	
P261	Avoid breathing mist or vapor.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves.
P280	Wear eye/face protection.
Response	
P301 + P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P302 + P352	IF ON SKIN: Wash with plenty of water.
P305 + P351 +	
P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P330	Rinse mouth.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P337 + P313	If eye irritation persists: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P391	Collect spillage.
Storage	Store away from incompatible materials.
Disposal	
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

Chemical name	Common name and synonyms	CAS number	%
EUGENOL	5-ALLYL-2-HYDROXY-ANISOL	97-53-0	100
	2-METHOXY-4-(2-PROPENYL)-PHENOL		
	1-HYDROXY-2-METHOXY-4-ALLYLBENZE		
	NE 2-METHOXY-4-ALLYLPHENOL		

4. FIRST-AID MEASURES

Inhalation	If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. For breathing difficulties, oxygen may be necessary. Call a physician if symptoms develop or persist.
Skin contact	Take off immediately all contaminated clothing. Get medical attention if irritation develops and persists. Wash skin thoroughly with soap and water for several minutes.
Eye contact	Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists. Promptly wash eyes with plenty of water while lifting the eye lids.



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Ingestion	Call a physician or poison control center immediately. If swallowed, rinse mouth with water (only if the person is conscious). Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs.
Most important symptoms/effects, acute and delayed	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.
Indication of immediate medical attention and special treatment needed	Not available.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.
5. FIRE-FIGHTING MEASU	IRES
Suitable extinguishing media	Water spray, fog, CO2, dry chemical, or alcohol resistant foam.
Unsuitable extinguishing media	Do not use a solid water stream as it may scatter and spread fire.
Specific hazards arising from the chemical	Fire may produce irritating, corrosive and/or toxic gases.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection. Wear self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode when fighting fires.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Water runoff can cause environmental damage. Ventilate closed spaces before entering them. Keep run-off water out of sewers and water sources. Dike for water control.

Specific methodsUse water spray to cool unopened containers.General fire hazardsStatic charges generated by emptying package in or near flammable vapor may cause flash fire.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Eliminate all sources of ignition. Avoid contact with skin or inhalation of spillage, dust or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them.



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Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb with inert absorbent such as dry clay, sand or diatomaceous earth, commercial sorbents, or recover using pumps.
	The product is immiscible with water and will spread on the water surface.
	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Prevent product from entering drains. Do not allow material to contaminate ground water system. Absorb in vermiculite, dry sand or earth and place into containers.
	Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.
	Never return spills in original containers for re-use. This material and its container must be disposed of as hazardous waste. Collect and dispose of spillage as indicated in section 13 of the SDS.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid release to the environment. Retain and dispose of contaminated wash water. Contact local authorities in case of spillage to drain/aquatic environment.

7. HANDLING AND STORAGE

Precautions for safe handling	Do not handle or store near an open flame, heat or other sources of ignition. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Avoid breathing vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Wash thoroughly after handling.
Conditions for safe storage, including any incompatibilities	Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits	No exposure limits noted for ingredient(s).	
Biological limit values	No biological exposure limits noted for the ingredient(s).	
Appropriate engineering controls	Use explosion-proof ventilation equipment to stay below exposure limits.	
Individual protection measures, suc	ch as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles). Face shield is recommended.	
Skin protection		
Hand protection	Chemical resistant gloves.	
Other	Use of an impervious apron is recommended.	
Respiratory protection	Respiratory protection not required. If ventilation is insufficient, suitable respiratory protection must be provided.	
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.	



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General hygiene considerations Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. PHYSICAL AND CHEMICAL PROPERTIES

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Appearance	Refer to Spec Sheet
Physical state	Liquid.
Form	Liquid.
Color	Refer to Spec Sheet
Odor	Characteristic.
Odor threshold	Not available.
рН	Not available.
Melting point/freezing point	15.44 - 15.62 °F (-9.29.1 °C)
Initial boiling point and boiling range	485.6 - 487.4 °F (252 - 253 °C)
Flash point	> 200.0 °F (> 93.3 °C) Closed Cup
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explose	ive limits
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	0.01 mm Hg at 25 °C
Vapor density	5.7
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Insoluble
Partition coefficient (n-octanol/water)	2.3
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	1.07 g/cm3 estimated
Flammability class	Combustible IIIB estimated
Molecular formula	C10-H12-O2
Molecular weight	164.2 g/mol



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Specific gravity	1.07 at 25 °C	
10. STABILITY AND REACTIVITY		
Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.	
Chemical stability	Material is stable under normal conditions.	
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.	
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials.	
Incompatible materials	Alkaline metals.	
Hazardous decomposition products	No hazardous decomposition products if stored and handled as indicated.	

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure		
Inhalation	No adverse effects due to inhalation are expected.	
Skin contact	Causes skin irritation. May cause an allergic skin reaction.	
Eye contact	Causes serious eye irritation. Causes mild eye irritation.	
Ingestion	Harmful if swallowed.	
Symptoms related to the physical, chemical and toxicological characteristics	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.	

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Acute toxicity	Harmful if swallowed. May cause an allergic s	Harmful if swallowed. May cause an allergic skin reaction.		
Product	Species Test Results			
EUGENOL (CAS 97-53-0)				
Acute				
Dermal				
LCL0	Rat	5000 mg/kg subcutaneous		
Inhalation				
LC50	Rat	2580 mg/m³, 4 hours ARTODN 62,381,1988		
Oral				
LD50	Rat	1930 mg/kg		
* Estimates for product r	nay be based on additional component data not show	vn.		
Skin corrosion/irritation	Causes skin irritation. rabbit - Severe skin irritation - 24 h - Draize Te	est		

	rabbit - Severe skin irritation - 24 h - Draize
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	May cause an allergic skin reaction.



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Germ cell mutagenicity	Genotoxicity in vitro - rat - Liver - DNA damage	
	Genotoxicity in vitro - mouse - lymphocyte - Mutation in mammalian somatic cells.	
	Genotoxicity in vitro - Hamster - Embryo - Unscheduled DNA synthesis	
	Genotoxicity in vitro - Hamster - Embryo - Morphological transformation.	
	Genotoxicity in vitro - Hamster - Embryo - Sister chromatid exchange	
	Genotoxicity in vivo - mouse - Oral - Micronucleus test	
Carcinogenicity	Carcinogenicity - mouse - Oral -Tumorigenic:Equivocal tumorigenic agent by RTECS criteria. Liver:Tumors.	
IARC Monographs. Overall	Evaluation of Carcinogenicity	
EUGENOL (CAS 97-53	-0) 3 Not classifiable as to carcinogenicity to humans.	
OSHA Specifically Regulate	d Substances (29 CFR 1910.1001-1050)	
Not listed.		
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.	
Specific target organ toxicity - single exposure	Inhalation - May cause respiratory irritation.	
Specific target organ toxicity - repeated exposure	Not classified.	
Aspiration hazard	Not an aspiration hazard.	

12. ECOLOGICAL INFORMATION

Toxic to aquatic life with long lasting effects.

Product		Species	Test Results
EUGENOL (CAS 97-5	3-0)		
Other	LD50	Bird	> 316 mg/kg Schafer, 1983
Aquatic			
Crustacea	EC50	Daphnia magna	1.13 mg/l, 48 hours
	LD50	Invertebrates (Invertebrates)	0.012 mg/kg Lee, 1997
Fish	LC50	Danio rerio	13 mg/l, 96 hours
		Oncorhynchus mykiss	60.8 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability	No data is available on the degradability of this produc

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

2.27

Ecotoxicity

Mobility in soil No data available.

Other adverse effects

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.



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13. DISPOSAL CONSIDERATIONS

Disposal instructions	Do not discharge into drains, water courses or onto the ground. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	Not established.
Waste from residues / unused products	Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. TRANSPORT INFORMATION

ADN

AD	ADN		
	UN number	3082	
	UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (EUGENOL)	
	Transport hazard class(es)	9	
	Subsidiary class(es)	-	
	Packing group	III	
	Environmental hazards	Yes	
	Labels required	9	
AD	R		
	UN number	3082	
	UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (EUGENOL)	
	Transport hazard class(es)	9	
	Subsidiary class(es)	-	
	Packing group	III	
	Environmental hazards	Yes	
	Labels required	9	
RI)		
	UN number	3082	
	UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (EUGENOL)	
	Transport hazard class(es)	9	
	Subsidiary class(es)	-	
	Packing group	III	
	Environmental hazards	Yes	
	Labels required	9	
DO	т		
BU	LK		
	UN number	3082	
	Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (EUGENOL)	
	Hazard class	9	
	Packing group	III	



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Environmental hazards

Marine pollutant	Yes
Packaging exceptions	155
Packaging bulk	241
Labels required	9

DOT

NON-BULK

Not regulated as dangerous goods.

ΙΑΤΑ

Not regulated as dangerous goods.

IMDG

3082
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (EUGENOL)
9
-
III
Yes
9
Not applicable.

ADN; ADR; DOT BULK; IMDG; RID



Marine pollutant





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15. REGULATORY INFOR	MATION		
US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.		
CERCLA Hazardous Substar	nce List (40 CFR 302.4)		
Not listed.			
US. OSHA Specifically Regu	lated Substances (29 CFR 1910.1001-1050)		
Not listed.			
SARA 304 Emergency release	se notification		
-			
	l Substances (29 CFR 1910.1001-1050)		
Not listed.			
	Notification (40 CFR 707, Subpt. D)		
Not regulated.			
Superfund Amendments and Rea			
Hazard categories	Immediate Hazard - Yes Delayed Hazard - No		
	Fire Hazard - No		
	Pressure Hazard - No		
	Reactivity Hazard - No		
SARA 302 Extremely hazard	ous substance		
Not listed.			
SARA 311/312 Hazardous chemical	Νο		
SARA 313 (TRI reporting) Not regulated.			
Other federal regulations			
Clean Air Act (CAA) Section	112 Hazardous Air Pollutants (HAPs) List		
Not regulated.			
Clean Air Act (CAA) Section	112(r) Accidental Release Prevention (40 CFR 68.130)		
Not regulated.			
Safe Drinking Water Act (SDWA)	Not regulated.		
Food and Drug	Total food additive		
Administration (FDA)	Direct food additive		
	GRAS food additive		
US state regulations			
US. Massachusetts RTK - Substance List			
Not regulated.			
US. New Jersey Worker and	Community Right-to-Know Act		
Not listed.			
LIC Denneydyenie Werken en	d Community Dight to Know Low		

US. Pennsylvania Worker and Community Right-to-Know Law Not listed.



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US. Rhode Island RTK

Not regulated.

US. California Proposition 65

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Not listed.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Issue date	10-02-2013
Revision date	03-31-2015
Version #	03
HMIS® ratings	Health: 2
	Flammability: 1
	Physical hazard: 0



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Disclaimer	Vigon cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. The above information relates only to this product and not to its use in combination with any other material or any particular process and is designed only as guidance for the safe handling, use, processing, storage, transportation, disposal, and should not be considered as a guarantee or quality specification. The above information is based on data provided by and collected from recognized sources such as distributors, manufacturers, and technical groups and is considered to be accurate to the best of Vigon's knowledge as of the date of this document. It is the responsibility of the user to review all safety information about this product and determine its safety and suitability in their own processes and operations. Appropriate warnings and safe handling procedures should be provided to all handlers and users, taking into account the intended use and the specific conditions and factors relating to such use in accordance with all applicable laws and regulations.
Revision Information	Product and Company Identification: Alternate Trade Names ACCIDENTAL RELEASE MEASURES: Methods and materials for containment and cleaning up EXPOSURE CONTROLS/PERSONAL PROTECTION: Eye/face protection Physical & Chemical Properties: Multiple Properties Toxicological Information: Toxicological Data Regulatory Information: United States OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION: Disclaimer GHS: Classification