

## SAFETY DATA SHEET

505022 WARDIA

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**1. IDENTIFICATION**

<b>Product Description:</b>	<b>WARDIA</b>
<b>CAS #</b>	MIXTURE
<b>Other means of identification</b>	
<b>Vigon Item #</b>	505022
<b>Recommended use</b>	Concentrated aromatic ingredient which may be used fragrance compounds according to legal and IFRA guidelines.
<b>Recommended restrictions</b>	For Manufacturing Use Only
<u>Company</u>	<u>24 Hour Emergency Response Information</u>
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**

<b>Physical hazards</b>	Not classified.	
<b>Health hazards</b>	Acute toxicity, oral	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 1
	Sensitization, skin	Category 1
<b>Environmental hazards</b>	Not classified.	

**Label elements**

<b>Signal word</b>	Danger
<b>Hazard statement</b>	
H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.

**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.
P280	Wear protective gloves.
P280	Wear eye/face protection.

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### 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.
P310	Immediately call a POISON CENTER/doctor.
P330	Rinse mouth.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.

### 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

### Mixtures

Chemical name	Common name and synonyms	CAS number	%
PHENYL ETHYL ALCOHOL	BENZYL CARBINOL 2-Phenylethanol	60-12-8	40 - < 50
CITRONELLOL	3,7-DIMETHYL-6-OCTEN-1-OL 6-Octen-1-ol, 3,7-dimethyl- 2,6-dimethyl-2-octen-8-ol	106-22-9	7.5 - < 10
GERANIOL	3,7-DIMETHYL-2,6-OCTADIEN-1-OL (2E)-3,7-dimethylocta-2,6-dien-1-ol LEMONOL GERANYL ALCOHOL	106-24-1	7.5 - < 10
HYDROXYCITRONELLAL	7-HYDROXY-3,7-DIMETHYL-OCTANAL HYDROXYCITRONELLAL Octanal, 7-hydroxy-3,7-dimethyl- HYDROXY-CITRONELLAL	107-75-5	2.5 - < 5
LINALOOL	2,6-DIMETHYL-2,7-OCTADIENE-6-OL 1,6-Octadien-3-ol, 3,7-dimethyl- 3,7-Dimethylocta-1,6-dien-3-ol LINALYL ALCOHOL	78-70-6	1 - < 2.5
NEROL	(2Z)-3,7-dimethylocta-2,6-dien-1-ol	106-25-2	1 - < 2.5
EUGENOL	5-ALLYL-2-HYDROXY-ANISOL 2-METHOXY-4-(2-PROPENYL)-PHENOL 1-HYDROXY-2-METHOXY-4-ALLYLBENZE NE 2-METHOXY-4-ALLYLPHENOL	97-53-0	0.5 < 1

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Chemical name	Common name and synonyms	CAS number	%
GERANYL ACETATE	geranyl ethanoate 2,6-DIMETHYL-2,6-OCTADIENE-8-YL ACETATE 3,7-DIMETHYL-2-TRANS-6-OCTADIENYL ACETATE [(2E)-3,7- dimethylocta-2,6-dienyl] acetate	105-87-3	0.5 < 1
BENZENEACETALDEHYDE, 4-METHYL-	P-TOLYLACETALDEHYDE P-METHYL PHENYL ACETALDEHYDE	104-09-6	0.1 < 0.5
CITRAL	2,6- OCTADIENAL, 3,7-DIMETHYL- 2,6- dimethyl octadien-2,6-al-8 3,7-DIMETHYL-2,6-OCTADIENAL 3,7- dimethylocta-2,6-dienal	5392-40-5	0.1 < 0.5
CITRONELLYL ACETATE	3,7-dimethyl-6-octen-1-yl ethanoate citronellyl ethanoate 3,7- dimethyloct-6-enyl acetate 1-acetoxy-3,7-dimethyl oct-6-ene	150-84-5	0.1 < 0.5
DIPHENYL OXIDE	PHENOXYBENZOL phenoxybenzene phenyl ether biphenyl oxide	101-84-8	0.1 < 0.5
UNDECYLENIC ALDEHYDE	hendecenal Undec-10-enal 10-UNDECENAL	112-45-8	0.1 < 0.5
Other components below reportable levels			20 - < 30

## 4. FIRST-AID MEASURES

<b>Inhalation</b>	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.
<b>Skin contact</b>	Take off immediately all contaminated clothing. Get medical attention if irritation develops and persists. Wash skin thoroughly with soap and water for several minutes.
<b>Eye contact</b>	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.
<b>Ingestion</b>	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.
<b>Most important symptoms/effects, acute and delayed</b>	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.
<b>Indication of immediate medical attention and special treatment needed</b>	Not available.
<b>General information</b>	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.



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### 5. FIRE-FIGHTING MEASURES

<b>Suitable extinguishing media</b>	Water spray, fog, CO2, dry chemical, or alcohol resistant foam.
<b>Unsuitable extinguishing media</b>	Do not use a solid water stream as it may scatter and spread fire.
<b>Specific hazards arising from the chemical</b>	Fire may produce irritating, corrosive and/or toxic gases.
<b>Special protective equipment and precautions for firefighters</b>	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.
<b>Fire fighting equipment/instructions</b>	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.
<b>Specific methods</b>	Use water spray to cool unopened containers.
<b>General fire hazards</b>	Static charges generated by emptying package in or near flammable vapor may cause flash fire.

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### 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions, protective equipment and emergency procedures</b>	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.
<b>Methods and materials for containment and cleaning up</b>	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.

<b>Environmental precautions</b>	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.
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## 7. HANDLING AND STORAGE

<b>Precautions for safe handling</b>	Do not handle or store near an open flame, heat or other sources of ignition. All equipment used when handling the product must be grounded. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Wash thoroughly after handling. Take precautionary measures against static discharges. Avoid breathing vapor.
<b>Conditions for safe storage, including any incompatibilities</b>	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

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
DIPHENYL OXIDE (CAS 101-84-8)	PEL	7 mg/m <sup>3</sup>	Vapor.
		1 ppm	Vapor.

#### US. ACGIH Threshold Limit Values

Components	Type	Value	Form
CITRAL (CAS 5392-40-5)	TWA	5 ppm	Inhalable fraction and vapor.
DIPHENYL OXIDE (CAS 101-84-8)	STEL	2 ppm	Vapor.
	TWA	1 ppm	Vapor.

#### US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
DIPHENYL OXIDE (CAS 101-84-8)	REL	7 mg/m <sup>3</sup>	Vapor.
		1 ppm	Vapor.
	TWA	7 mg/m <sup>3</sup>	Vapor.
		1 ppm	Vapor.

**Biological limit values** No biological exposure limits noted for the ingredient(s).

### Exposure guidelines

#### US ACGIH Threshold Limit Values: Skin designation

CITRAL (CAS 5392-40-5) Can be absorbed through the skin.

**Appropriate engineering controls** Use explosion-proof ventilation equipment to stay below exposure limits. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

### Individual protection measures, such 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.

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**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.

**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

<b>Appearance</b>	Refer to Spec Sheet
<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>Color</b>	Refer to Spec Sheet
<b>Odor</b>	Characteristic.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	Not available.
<b>Flash point</b>	> 200.0 °F (> 93.3 °C) Closed Cup
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	Not available.
<b>Relative density</b>	1 at d 20/20
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Insoluble
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Other information</b>	
<b>Molecular formula</b>	Not applicable

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Specific gravity 1 at 25 °C

VOC (Weight %) < 3 %

## 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
<b>Incompatible materials</b>	Strong oxidizing agents.
<b>Hazardous decomposition products</b>	No hazardous decomposition products if stored and handled as indicated.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

<b>Inhalation</b>	Prolonged inhalation may be harmful.
<b>Skin contact</b>	Causes skin irritation. May cause an allergic skin reaction.
<b>Eye contact</b>	Causes serious eye damage.
<b>Ingestion</b>	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. Permanent eye damage including blindness could result. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

### Information on toxicological effects

**Acute toxicity** Harmful if swallowed. May cause an allergic skin reaction.

Components	Species	Test Results
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BENZENEACETALDEHYDE, 4-METHYL- (CAS 104-09-6)

**Acute**

*Oral*

LD50	Rat	5000 mg/kg
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CITRAL (CAS 5392-40-5)

**Acute**

*Dermal*

LD50	Rabbit	2250 mg/kg
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*Oral*

LD50	Rat	4950 mg/kg
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CITRONELLOL (CAS 106-22-9)

**Acute**

*Dermal*

LD50	Rabbit	2650 mg/kg
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Components	Species	Test Results
<i>Oral</i>		
LD50	Rat	3450 mg/kg
CITRONELLYL ACETATE (CAS 150-84-5)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 2000 mg/kg
<i>Oral</i>		
LD50	Rat	6800 mg/kg
DIPHENYL OXIDE (CAS 101-84-8)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 7940 mg/kg
<i>Oral</i>		
LD50	Rat	2450 mg/kg
EUGENOL (CAS 97-53-0)		
<b>Acute</b>		
<i>Dermal</i>		
LCL0	Rat	5000 mg/kg subcutaneous
<i>Inhalation</i>		
LC50	Rat	2580 mg/m <sup>3</sup> , 4 hours ARTODN 62,381,1988
<i>Oral</i>		
LD50	Rat	1930 mg/kg
GERANIOL (CAS 106-24-1)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg
<i>Oral</i>		
LD50	Rat	3600 mg/kg
GERANYL ACETATE (CAS 105-87-3)		
<b>Acute</b>		
<i>Oral</i>		
LD50	Rat	6330 mg/kg Remarks: Behavioral:Somnolence (general depressed activity). Behavioral:Coma.



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Components	Species	Test Results
HYDROXYCITRONELLAL (CAS 107-75-5)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 2000 mg/kg OECD 402: limit
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg OECD 401: limit
LINALOOL (CAS 78-70-6)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	2000 mg/kg
<i>Oral</i>		
LD50	Rat	2790 mg/kg
NEROL (CAS 106-25-2)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg
<i>Oral</i>		
LD50	Rat	4500 mg/kg
PHENYL ETHYL ALCOHOL (CAS 60-12-8)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	2500 mg/kg
<i>Oral</i>		
LD50	Rat	1610 mg/kg
UNDECYLENIC ALDEHYDE (CAS 112-45-8)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	5000 mg/kg
<i>Oral</i>		
LD50	Rat	5000 mg/kg

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

<b>Skin corrosion/irritation</b>	Causes skin irritation.
<b>Serious eye damage/eye irritation</b>	Causes serious eye damage.
<b>Respiratory or skin sensitization</b>	
<b>Respiratory sensitization</b>	Not a respiratory sensitizer.
<b>Skin sensitization</b>	May cause an allergic skin reaction.

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**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity**

**ACGIH Carcinogens**

CITRAL (CAS 5392-40-5) A4 Not classifiable as a human carcinogen.

**IARC Monographs. Overall Evaluation of Carcinogenicity**

EUGENOL (CAS 97-53-0) 3 Not classifiable as to carcinogenicity to humans.

**OSHA Specifically Regulated 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** Not classified.

**Specific target organ toxicity - repeated exposure** Not classified.

**Aspiration hazard** Not an aspiration hazard.

**Chronic effects** Prolonged inhalation may be harmful.

**Further information** This mixture has not been subjected to toxicological testing as an entity. According to available data on the constituents the health classification criteria are met.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity** This mixture has not been subjected to ecotoxicological testing as an entity. According to available data on the constituents the environmental classification criteria are met.

Components		Species	Test Results
CITRAL (CAS 5392-40-5)			
<i>Acute</i>			
Other	EC20	Activated sludge of a predominantly domestic sewage	68 mg/l, 0.5 hours OECD Guideline 209 aquatic
<b>Aquatic</b>			
Other	EC50	Bacterium	2100 mg/l, 0.5 hours DIN 38412 Part 27 (draft) aquatic - The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested. The details of the toxic effect relate to the nominal concentration.
<i>Acute</i>			
Algae	EC50	Green algae ( <i>Chlamydomonas variabilis</i> )	103.8 mg/l, 72 hours DIN 38412 Part 9 static - The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested. The details of the toxic effect relate to the nominal concentration.

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Components		Species	Test Results
Crustacea	EC50	Daphnia magna	7 mg/l, 48 hours Directive 79/831/EEC static - The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested. The details of the toxic effect relate to the nominal concentration.
Fish	LC50	Ide, silver or golden orfe (Leuciscus idus)	4.6 - 10 mg/l, 96 hours DIN 38415 Part 15 static - The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested. The details of the toxic effect relate to the nominal concentration.
<b>CITRONELLOL (CAS 106-22-9)</b>			
<b>Aquatic</b>			
<i>Acute</i>			
Algae	EC50	Algae	2.4 mg/l, 72 hours
Crustacea	EC50	Daphnia	17 mg/l, 48 hours
Fish	LC50	Leuciscus idus (Golden orfe)	10 - 22 mg/l, 96 hours
<b>CITRONELLYL ACETATE (CAS 150-84-5)</b>			
Other	EC20	Micro-organisms	> 1000 mg/l, 30 min
<b>Aquatic</b>			
Fish	LC50	Zebra danio (Danio rerio)	6.1 mg/l, 96 hours
<b>DIPHENYL OXIDE (CAS 101-84-8)</b>			
<b>Aquatic</b>			
Crustacea	LC50	Water flea (Daphnia magna)	1.1 - 1.9 mg/l, 24 hours
Fish	LC50	Carp (Leuciscus idus melanotus)	3 mg/l, 48 hours
		Sheepshead minnow (Cyprinodon variegatus)	1.8 - 3.2 mg/l, 96 hours
<b>EUGENOL (CAS 97-53-0)</b>			
Other	LD50	Bird	> 316 mg/kg Schafer, 1983
<b>Aquatic</b>			
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
<b>GERANIOL (CAS 106-24-1)</b>			
Other	EC50	Activated sludge of a predominantly domestic sewage	70 mg/l, 0.5 hours

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Components			Species	Test Results
<b>Aquatic</b>				
Algae	EC50		Green algae ( <i>Desmodesmus subspicatus</i> )	13.1 mg/l, 72 hours
Crustacea	EC50		<i>Daphnia magna</i>	10.8 mg/l, 48 hours
Fish	LC50		<i>Danio rerio</i>	22 mg/l, 96 hours
			Fathead minnow ( <i>Pimephales promelas</i> )	2.7 - 3.8 mg/l, 96 hours
GERANYL ACETATE (CAS 105-87-3)				
<b>Aquatic</b>				
Algae	EC50		Green algae ( <i>Chlamydomonas variabilis</i> )	3.72 mg/l, 72 hours OECD Guideline 201 static. The statement of the toxic effect relates to the analytically determined concentration.
Crustacea	EC50		<i>Daphnia magna</i>	14.1 mg/l, 48 hours Directive 84/449/EEC, C.2 static. The statement of the toxic effect relates to the analytically determined concentration.
Fish	LC50		Fish	68.12 mg/l, 96 hours <i>Cyprinus carpio</i> . OECD Guideline 203 static. The product has not been tested. The statement has been derived from products of a similar structure or composition.
Other	EC10		Bacterium	> 10000 mg/l, 0.5 hours DIN 38412 Part 27 (draft) aquatic. The statement of the toxic effect relates to the analytically determined concentration. The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested.
LINALOOL (CAS 78-70-6)				
Other	EC10		Activated sludge of a predominantly domestic sewage	> 100 mg/l, 3 hours
<b>Aquatic</b>				
Algae	EC50		Green algae ( <i>Chlamydomonas variabilis</i> )	88.3 mg/l, 96 hours DIN 38412 Part 9 static. The details of the toxic effect related to the nominal concentration.
Crustacea	EC50		<i>Daphnia magna</i>	20 mg/l, 48 hours DIN 38412 Part 11 static. The details of the toxic effect related to the nominal concentration.
Fish	LC50		Ide, silver or golden orfe ( <i>Leuciscus idus</i> )	22 - 46 mg/l, 96 hours DIN 38412 Part 15 static. The details of the toxic effect related to the nominal concentration.

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Components		Species	Test Results
	LC50-R	Fish	27.8 mg/l, 96 hours
NEROL (CAS 106-25-2)			
<i>Acute</i>			
Algae	EC50	Green algae (Pseudokirchneriella subcapitata)	9.54 mg/l, 72 hours
			2.16 mg/l, 72 hours
<b>Aquatic</b>			
<i>Acute</i>			
Crustacea	EC50	Daphnia magna	32.4 mg/l, 48 hours
Fish	LC50	Danio rerio	20.3 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 product.

**Biodegradability**

**Percent degradation (Aerobic biodegradation)**

GERANIOL > 90 % OECD 301A (new version)(aerobic), activated sludge, domestic DOC reduction, Readily biodegradable (according to OECD criteria)

**Bioaccumulative potential**

**Partition coefficient n-octanol / water (log Kow)**

DIPHENYL OXIDE 4.21  
 EUGENOL 2.27  
 LINALOOL 2.97, (OECD Guideline 107)  
 PHENYL ETHYL ALCOHOL 1.36

**Bioconcentration factor (BCF)**

DIPHENYL OXIDE 470

**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.

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### 14. TRANSPORT INFORMATION

**ADN**

Not regulated as dangerous goods.

**ADR**

Not regulated as dangerous goods.

**RID**

Not regulated as dangerous goods.

**DOT**

**BULK**

Not regulated as dangerous goods.

**DOT**

**NON-BULK**

Not regulated as dangerous goods.

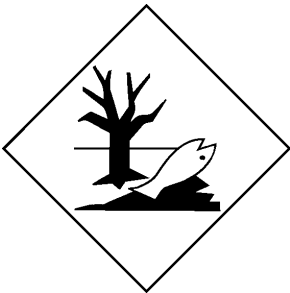
**IATA**

Not regulated as dangerous goods.

**IMDG**

Not regulated as dangerous goods.

**Marine pollutant**



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### 15. REGULATORY INFORMATION

**US federal regulations**

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Not listed.

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

**SARA 304 Emergency release notification**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

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## Superfund Amendments and Reauthorization Act of 1986 (SARA)

**Hazard categories**  
 Immediate Hazard - Yes  
 Delayed Hazard - No  
 Fire Hazard - No  
 Pressure Hazard - No  
 Reactivity Hazard - No

### SARA 302 Extremely hazardous substance

Not listed.

**SARA 311/312 Hazardous chemical** No

### 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.

## US state regulations

### US - Minnesota Haz Subs: Hazardous substance

DIPHENYL OXIDE (CAS 101-84-8) Hazardous substance.

### US. Massachusetts RTK - Substance List

DIPHENYL OXIDE (CAS 101-84-8)

### US. New Jersey Worker and Community Right-to-Know Act

DIPHENYL OXIDE (CAS 101-84-8)

### US. Pennsylvania Worker and Community Right-to-Know Law

DIPHENYL OXIDE (CAS 101-84-8)

### 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



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Country(s) or region	Inventory name	On inventory (yes/no)*
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	No
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	01-11-2016
Revision date	01-11-2016
Version #	01
HMIS® ratings	Health: 3 Flammability: 1 Physical hazard: 0

#### Disclaimer

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