SAFETY DATA SHEET

503488 DERTOL® 90 I

1. IDENTIFICATION

Product Description: **DERTOL® 90 I**

CAS # 8000-41-7

Other means of identification

Vigon Item # 503488

Recommended use Concentrated aromatic ingredient which may be used fragrance compounds according to legal and IFRA guidelines.

Recommended restrictions For Manufacturing Use Only

Company

Vigon International, Inc.
127 Airport Road
E. Stroudsburg, PA 18301
For information call: 570-476-6300
Web Site: www.vigon.com

24 Hour Emergency Response Information

INFOTRAC (ACCT# 78928);
1-800-535-5053 WITHIN THE U.S.A.
1-352-323-3500 OUTSIDE THE U.S.A.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name	Vigon International, Inc.	
Address	127 Airport Road E. Stroudsburg, PA 18301 United States	
Telephone	For information call:	570-476-6300
Website	www.vigon.com	
E-mail	regulatory@vigon.com	
Emergency phone number	INFOTRAC 1-800-535-5053 1-352-323-3500	(ACCT# 78928); WITHIN THE U.S.A. OUTSIDE THE U.S.A.

2. HAZARD(S) IDENTIFICATION

Physical hazards	Flammable liquids	Category 4
Health hazards	Acute toxicity, oral	Category 5
	Acute toxicity, dermal	Category 5
	Acute toxicity, inhalation	Category 3
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 3
	Hazardous to the aquatic environment, long-term hazard	Category 3

Label elements

Signal word	Danger
Hazard statement	Combustible liquid. May be harmful if swallowed or in contact with skin. Causes skin irritation. Causes skin and eye irritation. Causes serious eye irritation. Toxic if inhaled. Harmful to aquatic life. Harmful to aquatic life with long lasting effects.
Precautionary statement	
Prevention	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid breathing vapors. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.
Response	IF ON SKIN: Wash with plenty of water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a POISON CENTER/doctor. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. In case of fire: Use appropriate media to extinguish.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal	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	%
TERPINEOL MULTICONSTITUENT	mixture of p-methenols 2-(4-methyl-1-cyclohex-3-enyl)propan-2-ol (mixed isomers) terpene alcohol (mixed isomers)	8000-41-7	100

Additional components

Chemical name	Common name and synonyms	CAS number	%
CYMENE PARA	1- methyl-4-propan-2-ylbenzene 4-METHYL ISOPROPYL BENZENE Methyl isopropyl benzene DOLCYMENE 4-iso propyl toluene para-methylcumene camphogen	99-87-6	

Additional components

Chemical name	Common name and synonyms	CAS number	%
DIPENTENE	p- mentha-1,8-diene D,L- limonene 1- methyl-4-prop-1-en-2-ylcyclohexene	138-86-3	
TERPINEN-4-OL	4-METHYL-1-(PROPAN-2-YL)CYCLOHE X-3 -EN-1-OL p-Mentha-1-en-4-ol 4-CARVOMENTHENOL	562-74-3	
TERPINOLENE	cyclohexene, 1-methyl-4-(1-methylethylidene)- 1-METHYL-4-PROPAN-2-YLIDENE CYCLOHEXENE p- menth-1,4,8-diene P- METH-1-EN-8-YL-FORMATE 4-iso propylidene-1-methyl cylohexene	586-62-9	

Composition comments

According to the identification rules of REACH, this product is a multiconstituent substance, consisting of the following constituents:
- (-) alpha terpineol [α,α,4-trimethyl-(1S)-3-cyclohexene-1-methanol - CAS 10482-56-1]
- (+) alpha terpineol [α,α,4-trimethyl-(1R)-3-cyclohexene-1-methanol - CAS 7785-53-7]
- gamma terpineol [1-methyl-4-(1-methylethylidene)-cyclohexanol - CAS 586-81-2]

According to REACH, the constituents of a multiconstituent substance are, by definition, present at more than 10%.
Components present at less than 10% are considered as impurities.
Main impurities:
- cis beta terpineol [cis-1-methyl-4-(1-methylethenyl)-cyclohexanol - CAS 7299-41-4]
- 3-terpinen-1-ol [4-isopropyl-1-methylcyclohex-3-en-1-ol - CAS 586-82-3]
- terpinolene [4-isopropylidene-1-methylcyclohexene - CAS 586-62-9]
- trans beta terpineol [trans-1-methyl-4-(1-methylethenyl)-cyclohexanol - CAS 7299-40-3]
- 1-terpinen-4-ol [1-isopropyl-4-methylcyclohex-3-en-1-ol - CAS 562-74-3]
- delta terpineol [α,α-dimethyl-4-methylene cyclohexanemethanol - CAS 7299-42-5]
- dipentene [4-isopropenyl-1-methylcyclohexene - CAS 138-86-3]
- paracymene [1-isopropyl-4-méthylbenzene - CAS 99-87-6]

"Substance terpineol multiconstituent" (constituents + impurities) forms - according to the definition of a substance under REACH - 100% of the product.
· Identification number(s)
· Common CAS No.: 8000-41-7
· Description:
Reaction mass of (-) alpha terpineol (p-menth-1-ene-8-ol - CAS 10482-56-1) and (+) alpha terpineol [(R)-α,α,4- trimethylcyclohex-3-ene-1-methanol - CAS 7785-53-7] and gamma terpineol [1-methyl-4-(1-methylethylidene) cyclohexane-1-ol - CAS 586-81-2]

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.
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.
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 MEASURES

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 methods	Use water spray to cool unopened containers.
General fire hazards	Static 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	Eliminate all sources of ignition. Avoid contact with skin or inhalation of spillage, dust or vapor. Keep unnecessary personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them.

Methods and materials for containment and cleaning up

Collect and dispose of spillage as indicated in section 13 of the SDS.

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.

Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible.

Never return spills in original containers for re-use. This material and its container must be disposed of as hazardous waste. Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Prevent product from entering drains.

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. 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.

Environmental precautions

Retain and dispose of contaminated wash water. Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water.

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

US. Workplace Environmental Exposure Level (WEEL) Guides

Additional components	Type	Value
DIPENTENE (CAS 138-86-3)	TWA	165.5 mg/m3
		30 ppm

Biological limit values

No biological exposure limits noted for the ingredient(s).

Exposure guidelines

· Components with limit values that require monitoring at the workplace:
Terpenes
Austria: limit value - 8 hours = 560 mg/m³ (100 ppm)
Austria: limit value - short term = 560 mg/m³ (100 ppm)
Denmark : limit value - 8 hours = 140 mg/m³ (25 ppm)
Denmark : limit value - short term = 280 mg/m³ (50 ppm)
Sweden: limit value - 8 hours = 150 mg/m³ (25 ppm)
Sweden: limit value - short term = 300 mg/m³ (50 ppm)
Dipentene (dl-limonene - CAS 138-86-3)
Sweden : limit value - 8 hours = 150 mg/m³ (25 ppm)
Sweden : limit value - short term = 300 mg/m³ (50 ppm)
d-Limonene (CAS 5989-27-5) - one of the two isomers of dipentene (CAS 138-86-3)
Germany (AGS) : limit value - 8 hours = 28 mg/m³ (5 ppm)
Germany (AGS) : limit value - short term = 110 mg/m³ (20 ppm)
Germany (DFG) : limit value - 8 hours = 28 mg/m³ (5 ppm)
Germany (DFG) : limit value - short term = 112 mg/m³ (20 ppm)
Switzerland : limit value - 8 hours = 110 mg/m³ (20 ppm)
Switzerland : limit value - short term = 220 mg/m³ (40 ppm)
Paracymene (CAS 99-87-6)
Belgium: limit value - 8 hours = 100 mg/m³ (20 ppm)
Denmark: limit value - 8 hours = 135 mg/m³ (25 ppm)
Denmark: limit value - short term = 270 mg/m³ (50 ppm)
Sweden: limit value - 8 hours = 140 mg/m³ (25 ppm)
Sweden: limit value - short term = 190 mg/m³ (35 ppm)
· DNELs
· DNEL (Derived No-Effect Level): Workers - Long-term exposure
Systemic effects – dermal: 1.17 mg/kg bw/day
Systemic effects – inhalation: 5.8 mg/m³
· DNEL (Derived No-Effect Level): General population - Long-term exposure
Systemic effects - dermal: 0.42 mg/kg bw/d
Systemic effects - inhalation: 1.25 mg/m³
Systemic effects - oral: 0.42 mg/kg bw/d
· PNECs
· PNEC (Predicted No-Effect Concentration) aqua (freshwater): 62 µg/L
· PNEC (Predicted No-Effect Concentration) aqua (marine water): 6.2 µg/L
· PNEC (Predicted No-Effect Concentration) oral: 16.6 mg/kg food
· PNEC (Predicted No-Effect Concentration) soil: 0.052 mg/kg soil dw
· PNEC (Predicted No-Effect Concentration) sediment (marine water): 0.044 mg/kg sediment dw
· PNEC (Predicted No-Effect Concentration) sediment (freshwater): 0.442 mg/kg sediment dw
· PNEC (Predicted No-Effect Concentration) Sewage Treatment Plant: 2.57 mg/L
· Additional information:
This sheet is based on the current valid lists for occupational exposure limit values. The DNELs and PNECs values are derived from the chemical safety assessment conducted for REACH. Occupational exposure limits and DNELs are health-based but they are not necessarily set in the same way. The primary duty is to comply with risk management measures which enable to limit exposures as much as possible and to be in line with exposure reference levels.

Appropriate engineering controls

Use explosion-proof ventilation equipment to stay below exposure limits. Adequate ventilation should be provided so that exposure limits are not exceeded.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles). Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Chemical resistant gloves.
Other	Wear suitable protective clothing.
Respiratory protection	Respiratory protection not required.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	When using do not smoke. 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Refer to Spec Sheet
Physical state	Liquid.
Form	Liquid.
Color	Refer to Spec Sheet
Odor	Characteristic.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	-32.62 - -18.76 °F (-35.9 - -28.2 °C)
Initial boiling point and boiling range	410 - 419 °F (210 - 215 °C)
Flash point	180.0 °F (82.2 °C) Closed Cup
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	381 hPa at 25 °C
Vapor density	Not available.
Relative density	0.93 at 20 °C
Solubility(ies)	
Solubility (water)	Insoluble
Partition coefficient (n-octanol/water)	log Kow = 2.6 (30°C)
Auto-ignition temperature	Not available.

Decomposition temperature	Not available.
Viscosity	12.4 mPa·s (40°C - shear rate 583 s-1) 60.9 mPa·s (20°C - shear rate 583 s-1)
Other information	
Explosive properties	Not explosive.
Flammability class	Combustible IIIA estimated
Molecular formula	C10H18O
Molecular weight	154.25 g/mol 154.25 g/mol
Oxidizing properties	Not oxidizing.

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 heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products if stored and handled as indicated.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	Toxic if inhaled.
Skin contact	May be harmful in contact with skin. Causes skin irritation.
Eye contact	Causes serious eye irritation. Causes mild eye irritation.
Ingestion	May be 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.

Information on toxicological effects

Acute toxicity

Toxic if inhaled. May be harmful in contact with skin. May be harmful if swallowed.
Note: no acute toxicity (either local or systemic) was identified at the highest dose tested by inhalation (4.76 mg/L).
Oral and dermal LD_{50} are higher than 2000 mg/kg. Therefore, no signs of acute toxicity are expected by inhalation at concentrations used for classification.

Product	Species	Test Results
TERPINEOL MULTICONSTITUENT (CAS 8000-41-7)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg (OECD 402)

Product	Species	Test Results
Inhalation		
LC50	Rat	> 4.76 mg/l, 4 hours (OECD 403)
Oral		
LD50	Rat	> 2000 mg/kg (OECD 401)
Additional components	**Species**	**Test Results**
CYMENE PARA (CAS 99-87-6)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg
DIPENTENE (CAS 138-86-3)		
Acute		
Dermal		
LD50	Rabbit	5 g/kg
Oral		
LD50	Rat	5 g/kg
TERPINEN-4-OL (CAS 562-74-3)		
Acute		
Dermal		
LD50	Rabbit	2500 mg/kg
Oral		
LD50	Rat	1300 mg/kg
TERPINOLENE (CAS 586-62-9)		
Acute		
Dermal		
LD50	Rat	> 5 ml/kg
Oral		
LD50	Rat	4390 mg/kg

Skin corrosion/irritation

Causes skin irritation.
Terpineol multiconstituent and alpha-terpineol (main constituent) were found to be skin irritating, in several studies conducted in rabbits according to OECD Guideline No. 404.

Serious eye damage/eye irritation

Causes serious eye irritation.
The substance was found to be eye irritating, in a study conducted in rabbits according to OECD Guideline No. 405.

Respiratory or skin sensitization

Respiratory sensitization

Due to partial or complete lack of data the classification is not possible.

Skin sensitization

Due to partial or complete lack of data the classification is not possible.
The substance is not classified based on the following result: no skin sensitization effects were observed in a Guinea Pig Maximisation Test (GPMT) conducted according to OECD Guideline No. 406.

Germ cell mutagenicity

Results of tests conducted with the substance and one of its main constituents show that it has no genotoxic potential:
- terpineol multiconstituent and alpha terpineol were not mutagenic in several Ames tests (OECD 471 Guideline),
- no genotoxic effects were observed with the substance in a chromosome aberration test in human lymphocytes (OECD 473 Guideline),
- alpha-terpineol was not mutagenic in a gene mutation test on mouse lymphoma L5178Y cells (OECD 476 Guideline). Due to partial or complete lack of data the classification is not possible.

Carcinogenicity

Due to partial or complete lack of data the classification is not possible.
The substance is not expected to be carcinogenic:no mutagenic effects were observed with the substance and there is no evidence from the repeated dose toxicity studies that terpineol multiconstituent is able to induce hyperplasia or pre-neoplastic lesions

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity

Due to partial or complete lack of data the classification is not possible.
Based on findings from three studies conducted in rats, there is strong evidence that no reproductive effects are likely to occur by the possible routes of human exposure. Further testing will be carried out for REACH purposes.
A prenatal developmental toxicity study was conducted according to OECD Guideline 414.
Aministration of the substance by gavage to pregnant female rats at doses up to 600 mg/kg bw/day did not induce effects considered as adverse on pup survival and development.
NOAEL (maternal toxicity) = 600 mg/kg bw/day
NOAEL (enbryo-foetal toxicity) = 600 mg/kg bw/day

Specific target organ toxicity - single exposure

Due to partial or complete lack of data the classification is not possible.
No specific target organ toxicity was observed in the LD50 determination studies.

Specific target organ toxicity - repeated exposure

Due to partial or complete lack of data the classification is not possible.
Available data presented below do not lead to any classification.
In a repeated dose toxicity study, daily administration of terpineol multiconstituent by gavage for 5 weeks to male and female rats was generally well tolerated at dose levels up to 750 mg/kg/day:
- liver: complete reversibility of the observed effects 2 weeks after stopping substance administration,
- kidney: the observed changes were specific to male rats and of no consequence to human,
- teste: NOAEL was established at 250 mg/kg/day but there is strong evidence that no effects will occur when animals are exposed through a route relevant for human exposure (diet) rather than gavage.

Aspiration hazard

Due to partial or complete lack of data the classification is not possible.
Terpineol multiconstituent is not a member of the recognized category of materials having aspiration toxicity potential (i.e. hydrocarbons) and there is no evidence of aspiration toxicity for this material.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic life with long lasting effects.

Product		Species	Test Results
TERPINEOL MULTICONSTITUENT (CAS 8000-41-7)			
Acute			
Algae	EC50	Green algea (Pseudokirchneriella subcapitata)	68 mg/l, 72 hours (based on growth rate - nominal concentration – OECD 201 Guideline)
			17 mg/l, 72 hours (based on biomass - nominal concentration – OECD 201 Guideline)
	NOEC	Green algea (Pseudokirchneriella subcapitata)	3.9 mg/l, 72 hours (growth and biomass - nominal concentration – OECD 201 Guideline)
Aquatic			
Acute			
Crustacea	EC50	Daphnia magna	73 mg/l, 48 hours (nominal concentration - OECD 202 Guideline)
	LC50	Daphnia magna	73 mg/l, 48 hours (nominal concentration - OECD 202 Guideline)
		Earthworm (Eisenia fetida)	> 499 - < 799 mg/kg, 14 days (based on mortality – nominal concentration –OECD 207 Guideline)
	NOEC	Daphnia magna	40 mg/l, 48 hours (based on mortality - nominal concentration - OECD 202 Guideline)
		Earthworm (Eisenia fetida)	311 mg/kg, 14 days (based on mortality – nominal concentration – OECD 207 Guideline)
			311 mg/kg, 14 days (based on growth – nominal concentration – OECD 207 Guideline)
Fish	LC50	Danio rerio	> 62 - < 80 mg/l, 96 hours (nominal concentration - OECD 203 Guideline)
	NOEC	Danio rerio	62 mg/l, 96 hours (nominal concentration - OECD 203 Guideline)

Additional components		Species	Test Results
CYMENE PARA (CAS 99-87-6)			
Other	EC50	Pseudokirchnerella subcapitata	5.8 mg/l, 72 hours
Aquatic			
Crustacea	LC50	Water flea (Daphnia magna)	> 4.3 - < 10 mg/l, 48 hours
Fish	LC50	Fish	2 mg/l, 96 hours (Oryzias latipes)

Additional components		Species	Test Results
		Sheepshead minnow (Cyprinodon variegatus)	> 36 - < 64 mg/l, 96 hours
	NOEC	Sheepshead minnow (Cyprinodon variegatus)	10 mg/l, 96 hours
DIPENTENE (CAS 138-86-3)			
Aquatic			
Fish	LC50	Carp (Leuciscus idus melanotus)	34 mg/l, 48 hours
TERPINOLENE (CAS 586-62-9)			
Aquatic			
Crustacea	LC50	Daphnia magna	2.55 mg/l, 48 h
Fish	LC50	Pimephales promelas	0.72 mg/l, 96 h

Persistence and degradability
Terpineol multiconstituent is readily biodegradable.
After 28 days: 80% degradation (inorganic carbon concentration) – OECD 310 Guideline – domestic activated sludge
- 60% being surpassed within 10 days after reaching 10%.
According to Annex XIII of REACH Regulation, the substance is not considered to be very Persistent and very Bioaccumulative.

Bioaccumulative potential
No measured data are available for the substance. Based on estimations using 3 different QSARs (Quantitative Structure-Activity Relationship methods) and the value of the partition coefficient n-octanol/water less than 3, an accumulation in organisms is not expected.
According to Annex XIII of REACH Regulation, the substance is not considered to be Persistent, Bioaccumulative and Toxic.

Mobility in soil
The adsorption coefficient of the substance was determined in a study conducted following the OECD 106 guideline: 28.8 ≤ Koc ≤ 50.9
Taken with the high water solubility, this value is low enough to suggest that terpineol multiconstituent will show limited adsorption to soil or sediment particulates, and will partition mainly to water (in the surface or ground water compartments).

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.

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
Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

ADN

Not regulated as dangerous goods.

ADR

Not regulated as dangerous goods.

RID

Not regulated as dangerous goods.

DOT

BULK

UN number	NA1993
Proper shipping name	COMBUSTIBLE LIQUID, N.O.S. (TERPINEOLS)
Hazard class	Combustible liq
Packing group	III
Environmental hazards	
Marine pollutant	No
Packaging exceptions	150
Packaging bulk	241
Labels required	None

DOT

NON-BULK

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. REGULATORY INFORMATION

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

Toxic Substances Control Act (TSCA)

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical	Yes
Classified hazard categories	Flammable (gases, aerosols, liquids, or solids) Acute toxicity (any route of exposure) Skin corrosion or irritation Serious eye damage or eye irritation

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.

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

Issue date	11-21-2015
Revision date	05-01-2020
Version #	03
HMIS® ratings	Health: 2 Flammability: 2 Physical hazard: 0
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Revision information This document has undergone significant changes and should be reviewed in its entirety.