

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations Issue date: 02/09/2019 Revision date: 03/11/2025 Supersedes: 07/21/2020

SECTION 1: Identification Identification 1.1. Product form : Mixture Product name : OIL, SEA SALT II AN* CAS-No. N/A Product code : 91-1034-62A 1.2. Recommended use and restrictions on use 1.3. **Supplier** The Lebermuth Company 4004 Technology Drive South Bend, IN 46628 - United States T 574-259-7000 - F 574-258-7450 info@lebermuth.com - www.lebermuth.com 1.4. **Emergency telephone number** Emergency number : CHEMTREC - USA: 800-424-9300 International: +1 703-527-3887 / 1-800-424-9300 CCN 13010 SECTION 2: Hazard(s) identification 2.1. **Classification of the substance or mixture GHS US classification** Flammable liquids Category 4 Combustible liquid Skin corrosion/irritation Category 2 Causes skin irritation Serious eye damage/eye irritation Category 2 Causes serious eye irritation Skin sensitization, Category 1 May cause an allergic skin reaction Reproductive toxicity Category 2 Suspected of damaging fertility or the unborn child May be fatal if swallowed and enters airways Aspiration hazard Category 1 GHS Label elements, including precautionary statements 2.2. **GHS US labeling** Hazard pictograms (GHS US) GHS07 GHS08 Signal word (GHS US) : Danger Hazard statements (GHS US) Combustible liquid May be fatal if swallowed and enters airways Causes skin irritation May cause an allergic skin reaction Causes serious eye irritation Suspected of damaging fertility or the unborn child Precautionary statements (GHS US) Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid breathing dust/fume/gas/mist/vapors/spray. Wash hands, forearms and face thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. If swallowed: Immediately call a poison center or doctor. If on skin: Wash with plenty of water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If exposed or concerned: Get medical advice/attention. Specific treatment (see supplemental first aid instruction on this label).

Version: 1.2

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Do NOT induce vomiting.
If skin irritation occurs: Get medical advice/attention.
If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
Wash contaminated clothing before reuse.
In case of fire: Use media other than water to extinguish.
Store in a well-ventilated place. Keep cool.
Store locked up.
Dispose of contents/container to hazardous or special waste collection point, in accordance
with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable 3.2. Mixtures

Name	Product identifier	%	GHS US classification
D-LIMONENE	(CAS-No.) 5989-27-5	10 – 25	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Asp. Tox. 1, H304
LINALYL ACETATE	(CAS-No.) 115-95-7	10 – 25	Flam. Liq. 4, H227 Skin Irrit. 2, H315 Eye Irrit. 2B, H320 Skin Sens. 1B, H317
LINALOOL	(CAS-No.) 78-70-6	1 – 5	Flam. Liq. 4, H227 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Skin Sens. 1B, H317
1,2,3,3a,4,5,6,8a-Octahydro-4,8-dimethyl-2-(1- methylethylidene)-6-azulenol	(CAS-No.) 89-88-3	1 – 5	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Skin Sens. 1B, H317
PIPERONAL	(CAS-No.) 120-57-0	1 – 5	Skin Sens. 1B, H317
GAMMA-TERPINENE	(CAS-No.) 99-85-4	0.1 – 1	Flam. Liq. 3, H226 Repr. 2, H361 Asp. Tox. 1, H304
4-TERPINEOL	(CAS-No.) 562-74-3	0.1 – 1	Flam. Liq. 4, H227 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2B, H320 Skin Sens. 1, H317 STOT SE 3, H336
GERANIOL	(CAS-No.) 106-24-1	0.1 – 1	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317
CITRAL	(CAS-No.) 5392-40-5	0.1 – 1	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Skin Sens. 1, H317
ALPHA-TERPINENE	(CAS-No.) 99-86-5	0.1 – 1	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Eye Irrit. 2B, H320 Skin Sens. 1, H317 Asp. Tox. 1, H304

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures	
4.1. Description of first aid measures	
First-aid measures general	: Call a physician immediately.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.

Safety Data Sheet

ccording to Federal Register / Vol. 77, No. 58 / Mono	day, March 26, 2012 / Rules and Regulations
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Do not induce vomiting. Call a physician immediately.
4.2. Most important symptoms and ef	ffects (acute and delayed)
Symptoms/effects after inhalation	: No data available.
Symptoms/effects after skin contact	: Irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Eye irritation.
Symptoms/effects after ingestion	: Risk of lung edema.
4.3. Immediate medical attention and	special treatment, if necessary
Treat symptomatically.	
SECTION 5: Fire-fighting measure	9S
5.1. Suitable (and unsuitable) extingu	lishing media
Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media	: Do not use a heavy water stream.
5.2. Specific hazards arising from the	chemical
Fire hazard	: Combustible liquid.
Explosion hazard	: No direct explosion hazard.
Reactivity	: The product is non-reactive under normal conditions of use, storage and transport.
5.3. Special protective equipment and	
Firefighting instructions	 Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
SECTION 6: Accidental release mo	Pasures
6.1. Personal precautions, protective	equipment and emergency procedures
	 equipment and emergency procedures Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage.
General measures	: Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb
General measures 6.1.1. For non-emergency personnel	: Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb
General measures	: Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage.
General measures 6.1.1. For non-emergency personnel Protective equipment	 Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage. Wear recommended personal protective equipment. Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin
General measures 6.1.1. For non-emergency personnel Protective equipment Emergency procedures 6.1.2. For emergency responders	 Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage. Wear recommended personal protective equipment. Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin
General measures 6.1.1. For non-emergency personnel Protective equipment Emergency procedures	 Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage. Wear recommended personal protective equipment. Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not attempt to take action without suitable protective equipment. For further information
General measures 6.1.1. For non-emergency personnel Protective equipment Emergency procedures 6.1.2. For emergency responders Protective equipment Emergency procedures	 Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage. Wear recommended personal protective equipment. Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
General measures 6.1.1. For non-emergency personnel Protective equipment Emergency procedures 6.1.2. For emergency responders Protective equipment Emergency procedures 6.1.2. For emergency responders Protective equipment Emergency procedures 6.2. Environmental precautions	 Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage. Wear recommended personal protective equipment. Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
General measures 6.1.1. For non-emergency personnel Protective equipment Emergency procedures 6.1.2. For emergency responders Protective equipment Emergency procedures 6.1.2. For emergency responders Protective equipment Emergency procedures 6.2. Environmental precautions Avoid release to the environment.	 Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage. Wear recommended personal protective equipment. Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection". Evacuate unnecessary personnel. Stop leak if safe to do so.
General measures 6.1.1. For non-emergency personnel Protective equipment Emergency procedures 6.1.2. For emergency responders Protective equipment Emergency procedures 6.1.2. For emergency responders Protective equipment Emergency procedures 6.2. Environmental precautions Avoid release to the environment. 6.3. Methods and material for contain	 Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage. Wear recommended personal protective equipment. Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection". Evacuate unnecessary personnel. Stop leak if safe to do so.
General measures 6.1.1. For non-emergency personnel Protective equipment Emergency procedures 6.1.2. For emergency responders Protective equipment Emergency procedures 6.2. Environmental precautions Avoid release to the environment. 6.3. Methods and material for contain For containment	 Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage. Wear recommended personal protective equipment. Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection". Evacuate unnecessary personnel. Stop leak if safe to do so.
General measures 6.1.1. For non-emergency personnel Protective equipment Emergency procedures 6.1.2. For emergency responders Protective equipment Emergency procedures 6.2. Environmental precautions Avoid release to the environment. 6.3. Methods and material for contain For containment Methods for cleaning up	 Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage. Wear recommended personal protective equipment. Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection". Evacuate unnecessary personnel. Stop leak if safe to do so.
General measures 6.1.1. For non-emergency personnel Protective equipment Emergency procedures 6.1.2. For emergency responders Protective equipment Emergency procedures 6.2. Environmental precautions Avoid release to the environment. 6.3. Methods and material for contain For containment Wethods for cleaning up Other information	 Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage. Wear recommended personal protective equipment. Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection". Evacuate unnecessary personnel. Stop leak if safe to do so.
General measures 6.1.1. For non-emergency personnel Protective equipment Emergency procedures 6.1.2. For emergency responders Protective equipment Emergency procedures 6.2. Environmental precautions Avoid release to the environment. 6.3. Methods and material for contain For containment Methods for cleaning up Other information 6.4. Reference to other sections	 Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage. Wear recommended personal protective equipment. Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection". Evacuate unnecessary personnel. Stop leak if safe to do so.
General measures 6.1.1. For non-emergency personnel Protective equipment Emergency procedures 6.1.2. For emergency responders Protective equipment Emergency procedures 6.2. Environmental precautions Avoid release to the environment. 6.3. Methods and material for contain For containment Methods for cleaning up Other information	 Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage. Wear recommended personal protective equipment. Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection". Evacuate unnecessary personnel. Stop leak if safe to do so.
General measures 6.1.1. For non-emergency personnel Protective equipment Emergency procedures 6.1.2. For emergency responders Protective equipment Emergency procedures 6.2. Environmental precautions Avoid release to the environment. 6.3. Methods and material for contain For containment Methods for cleaning up Other information 6.4. Reference to other sections For further information refer to section 13.	 Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage. Wear recommended personal protective equipment. Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection". Evacuate unnecessary personnel. Stop leak if safe to do so.

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Precautions for safe handling	Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear personal protective equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray.
Hygiene measures	Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.
7.2. Conditions for safe storage, includ	ing any incompatibilities
Technical measures	: Keep in a cool, well-ventilated place away from heat.
Storage conditions	: Store in a well-ventilated place. Keep cool. Store locked up.
Packaging materials	: Store always product in container of same material as original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

OIL, SEA SALT II AN* (N/A)	
No additional information available	
GERANIOL (106-24-1)	
No additional information available	
ALPHA-TERPINENE (99-86-5)	
No additional information available	
LINALOOL (78-70-6)	
No additional information available	
CITRAL (5392-40-5)	
USA - ACGIH - Occupational Exposure Lim	its
Local name	Citral
ACGIH OEL TWA	5 ppm (IFV - Inhalable fraction and vapor)
Remark (ACGIH)	TLV® Basis: Body weight eff; URT irr; eye dam. Notations: Skin; DSEN; A4 (Not classifiable as a Human Carcinogen)
Regulatory reference	ACGIH 2024
LINALYL ACETATE (115-95-7)	
No additional information available	
D-LIMONENE (5989-27-5)	
No additional information available	
GAMMA-TERPINENE (99-85-4)	
No additional information available	
4-TERPINEOL (562-74-3)	
No additional information available	
1,2,3,3a,4,5,6,8a-Octahydro-4,8-dimethyl-2-	(1-methylethylidene)-6-azulenol (89-88-3)
No additional information available	
PIPERONAL (120-57-0)	
No additional information available	

8.2. Appropriate engineering controls

Appropriate engineering controls Environmental exposure controls

- : Ensure good ventilation of the work station.: Avoid release to the environment.
- 8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Wear recommended personal protective equipment.

Hand protection:

Protective gloves

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Eye protection:

Chemical goggles or safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection.



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and o	chemical properties
Physical state	: Liquid
Color	: YELLOW/AMBER TO AMBER
Odor	: CHARACTERISTIC, MATCHING RETAINER SAMPLE
Odor threshold	: No data available
pH	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: 66 °C
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability	: Not applicable.
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: 0.923 (0.913 – 0.933)
Solubility	: Insoluble.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
9.2. Other information	

Refractive index

: 1.463 (1.453 - 1.473)

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological informati	on
1.1. Information on toxicological effects	
cute toxicity (oral)	: Not classified
cute toxicity (dermal)	: Not classified
cute toxicity (inhalation)	: Not classified
GERANIOL (106-24-1)	
ATE US (oral)	3600 mg/kg body weight
ALPHA-TERPINENE (99-86-5)	
ATE US (oral)	1680 mg/kg body weight
LINALOOL (78-70-6)	
ATE US (oral)	2790 mg/kg body weight
CITRAL (5392-40-5)	
LD50 oral rat	≈ 6800 mg/kg body weight Animal: rat
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Remarks on results: other:
D-LIMONENE (5989-27-5)	
LD50 oral rat	> 2000 mg/kg body weight (OECD 423: Acute Oral Toxicity – Acute Toxic Class Method, Rat, Female, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	> 5000 mg/kg body weight (Equivalent or similar to OECD 402, 24 h, Rabbit, Read-across, Dermal, 7 day(s))
GAMMA-TERPINENE (99-85-4)	
ATE US (oral)	3650 mg/kg body weight
4-TERPINEOL (562-74-3)	
ATE US (oral)	1300 mg/kg body weight
ATE US (gases)	4500 ppmV/4h
ATE US (vapors)	11 mg/l/4h
ATE US (dust, mist)	1.5 mg/l/4h
PIPERONAL (120-57-0)	
LD50 oral rat	2700 mg/kg (Equivalent or similar to OECD 401, Rat, Male / female, Oral, 5 day(s))
LD50 dermal rat	> 5000 mg/kg (Equivalent or similar to OECD 402, 24 h, Rat, Male / female, Experimental value, Skin, 14 day(s))
ATE US (oral)	2700 mg/kg body weight
kin corrosion/irritation	: Causes skin irritation.
erious eye damage/irritation	: Causes serious eye irritation.
espiratory or skin sensitization	: May cause an allergic skin reaction.
erm cell mutagenicity	: Not classified
arcinogenicity	: Not classified
CITRAL (5392-40-5)	
NOAEL (chronic,oral,animal/male,2 years)	60 mg/kg body weight Animal: mouse, Animal sex: male, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies), Remarks on results: other:
D-LIMONENE (5989-27-5)	
IARC group	3 - Not classifiable
Reproductive toxicity	: Suspected of damaging fertility or the unborn child.
TOT-single exposure	: Not classified
3/11/2025	EN (English US) 6/

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

STOT single expessive	May cause droweiness or dizziness
STOT-single exposure	May cause drowsiness or dizziness.
STOT-repeated exposure	: Not classified
Aspiration hazard	: May be fatal if swallowed and enters airways.
/iscosity, kinematic	: No data available
Symptoms/effects after inhalation	: No data available.
Symptoms/effects after skin contact	: Irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Eye irritation.
Symptoms/effects after ingestion	: Risk of lung edema.
SECTION 12: Ecological informa	tion
12.1. Toxicity	
Ecology - general	: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.
CITRAL (5392-40-5)	
LC50 - Fish [1]	6.78 mg/l Test organisms (species): Leuciscus idus
EC50 - Crustacea [1]	6.8 mg/l Test organisms (species): Daphnia magna
D-LIMONENE (5989-27-5)	
LC50 - Fish [1]	720 μ g/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value)
EC50 - Crustacea [1]	0.307 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Semi- static system, Fresh water, Experimental value, GLP)
LC50 - Fish [2]	702 μg/l Test organisms (species): Pimephales promelas
EC50 - Crustacea [2]	0.51 mg/l Test organisms (species): Daphnia magna
PIPERONAL (120-57-0)	
LC50 - Fish [1]	2.5 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Cyprinus carpio, Static system, Fresh water, Experimental value, GLP)
EC50 - Crustacea [1]	52 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Nominal concentration)
ErC50 algae	31 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)
12.2. Persistence and degradability	
D-LIMONENE (5989-27-5) Persistence and degradability	Readily biodegradable in water.
r croisterice and degradability	

PIPERONAL (120-57-0)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
ThOD	1.71 g O ₂ /g substance

12.3. Bioaccumulative potential

D-LIMONENE (5989-27-5)	
BCF - Fish [1]	864.8 l/kg (BCFBAF v3.01, Pisces, QSAR, Fresh weight)
Partition coefficient n-octanol/water (Log Pow)	4.38 (Experimental value, Equivalent or similar to OECD 117, 37 °C)
Bioaccumulative potential	Potential for bioaccumulation ($4 \le Log \text{ Kow} \le 5$).

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

PIPERONAL (120-57-0)	
Partition coefficient n-octanol/water (Log Pow)	1.2 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 35 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
42.4 Mobility in soil	

12.4. Mobility in soil

D-LIMONENE (5989-27-5)	
Surface tension	No data available in the literature
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.049 – 3.801 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Low potential for mobility in soil.
PIPERONAL (120-57-0)	
FIFERUNAL (120-57-0)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.1 (log Koc, Calculated value)
Ecology - soil	Highly mobile in soil.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal consideration	IS
13.1. Disposal methods	
Regional waste regulation Waste treatment methods Sewage disposal recommendations Product/Packaging disposal recommendations Additional information	 Disposal must be done according to official regulations. Dispose of contents/container in accordance with licensed collector's sorting instructions. Disposal must be done according to official regulations. Disposal must be done according to official regulations. Do not re-use empty containers.
SECTION 14: Transport information	
Department of Transportation (DOT) In accordance with DOT Transport document description (DOT)	: UN1266 Perfumery products (Regulated for Bulk only), Comb Liq, III
UN-No. (DOT)	: UN1266
Proper Shipping Name (DOT)	: Perfumery products
	(Regulated for Bulk only)
Class (DOT)	: Comb Liq - Combustible liquid
Packing group (DOT)	: III - Minor Danger
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 203
DOT Packaging Bulk (49 CFR 173.xxx)	: 242
DOT Special Provisions (49 CFR 172.102)	 B1 - If the material has a flash point at or above 38 C (100 F) and below 93 C (200 F), then the bulk packaging requirements of 173.241 of this subchapter are applicable. If the material has a flash point of less than 38 C (100 F), then the bulk packaging requirements of 173.242 of this subchapter are applicable. IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672). T2 - 1.5 178.274(d)(2) Normal
DOT Packaging Exceptions (49 CFR 173.xxx)	: 150
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 60 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 220 L
03/11/2025	EN (English US) 8/11

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
Emergency Response Guide (ERG) Number	: 127
Other information	: No supplementary information available.

Transportation of Dangerous Goods

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

SECTION	15: Regulatory information	

15.1. US Federal regulations

1,2,3,3a,4,5,6,8a-Octahydro-4,8-dimethyl-2-(1-methylethylidene)-6-azulenol (89-88-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

15.2. International regulations

CANADA

No additional information available

ALPHA-TERPINENE (99-86-5)	
Listed on the Canadian DSL (Domestic Substances List)	
LINALOOL (78-70-6)	
Listed on the Canadian DSL (Domestic Substances List)	
CITRAL (5392-40-5)	
Listed on the Canadian DSL (Domestic Substances List)	
LINALYL ACETATE (115-95-7)	
Listed on the Canadian DSL (Domestic Substances List)	
D-LIMONENE (5989-27-5)	
Listed on the Canadian DSL (Domestic Substances List)	
GAMMA-TERPINENE (99-85-4)	
Listed on the Canadian DSL (Domestic Substances List)	
4-TERPINEOL (562-74-3)	
Listed on the Canadian DSL (Domestic Substances List)	
1,2,3,3a,4,5,6,8a-Octahydro-4,8-dimethyl-2-(1-methylethylidene)-6-azulenol (89-88-3)	
Listed on the Canadian DSL (Domestic Substances List)	
PIPERONAL (120-57-0)	
Listed on the Canadian DSL (Domestic Substances List)	

EU-Regulations

No additional information available

National regulations

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

ALPHA-TERPINENE (99-86-5)

ALPHA-TERPINEN	ALPHA-TERPINENE (99-86-5)		
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active			
LINALOOL (78-70-	6)		
	Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active Listed on INSQ (Mexican National Inventory of Chemical Substances)		
CITRAL (5392-40-5	5)		
	d States TSCA (Toxic Substances Control Act) inventory - Status: Active exican National Inventory of Chemical Substances)		
LINALYL ACETAT	E (115-95-7)		
	d States TSCA (Toxic Substances Control Act) inventory - Status: Active exican National Inventory of Chemical Substances)		
D-LIMONENE (598	9-27-5)		
	Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active Listed on INSQ (Mexican National Inventory of Chemical Substances)		
GAMMA-TERPINE	NE (99-85-4)		
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active Listed on INSQ (Mexican National Inventory of Chemical Substances)			
4-TERPINEOL (562	2-74-3)		
	d States TSCA (Toxic Substances Control Act) inventory - Status: Active exican National Inventory of Chemical Substances)		
PIPERONAL (120-	57-0)		
Listed on the United	d States TSCA (Toxic Substances Control Act) inventory - Status: Active exican National Inventory of Chemical Substances)		
15.3. US State regul	ations		
	This product can expose you to chemicals including pulegone, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.		
	This product can expose you to furocoumarines (e. g. trioxysalen (inn), 8-methoxypsoralen, 5-methoxypsoralen) except for normal content in natural essences used. in sunprotection and in bronzing products, furocoumarines shall be below 1 mg/kg, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.		
A WARNING:	This product can expose you to estragole, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.		
	This product can expose you to methyl eugenol, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.		

This product can expose you to beta-myrcene, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

SECTION 16: Other information

Revision date

: 03/11/2025

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

text of H-phrases:	
H226	Flammable liquid and vapor
H227	Combustible liquid
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H320	Causes eye irritation
H332	Harmful if inhaled
H336	May cause drowsiness or dizziness
H361	Suspected of damaging fertility or the unborn child

SDS US (GHS HazCom 2012) - Lebermuth

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.