OIL, BAY RUM PF*

Safety Data Sheet

according to the Hazardous Products Regulation (WHMIS 2015)

Issue date: 05/05/2020 Revision date: 02/10/2025 Supersedes: 03/25/2021 Version: 1.2

SECTION 1: Identification

1.1. Product identifier

Product form : Mixture

Product name : OIL, BAY RUM PF*

CAS-No. : N/A

Product code : 90-3043-51

Product group : Trade product

1.2. Recommended use and restrictions on use

1.3. Supplier

The Lebermuth Company
4004 Technology Drive
46628 South Bend, IN - 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 identification

2.1. Classification of the substance or mixture

Classification (GHS CA)

Flammable liquids Category 4	H227
Skin corrosion/irritation Category 2	H315
Serious eye damage/eye irritation Category 2	H319
Skin sensitization, Category 1	H317
Reproductive toxicity Category 2	H361

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS CA labeling

Hazard pictograms (GHS CA) :

Signal word (GHS CA) : Warning

Hazard statements (GHS CA) : H227 - Combustible liquid
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H361 - Suspected of damaging fertility or the unborn child

Precautionary statements (GHS CA) : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
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.

P308+P313 - IF exposed or concerned: Get medical advice/attention.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P332+P313 - If skin irritation occurs: Get medical advice/attention.
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.
P370+P378 - In case of fire: Use media other than water to extinguish.
P403 - Store in a well-ventilated place.
P405 - Store locked up.
P501 - 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

No additional information available

2.4. Unknown acute toxicity (GHS CA)

No data available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Chemical name / Synonyms	Product identifier	%	Classification (GHS CA)
LINALOOL		(CAS-No.) 78-70-6	10 – 25	Flam. Liq. 4, H227 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Skin Sens. 1B, H317
LINALYL ACETATE		(CAS-No.) 115-95-7	5 – 10	Flam. Liq. 4, H227 Skin Irrit. 2, H315 Eye Irrit. 2B, H320 Skin Sens. 1B, H317
ACETYL CEDRENE	[3R-(3alpha,3abeta,7beta,8aalpha)]-1-(2,3,4,7,8,8a-hexahydro-3,6,8,8-tetramethyl-1H-3a,7-methanoazulen-5-yl)ethan-1-one / ethanone, 1-(2,3,4,7,8,8a-hexahydro-3,6,8,8-tetramethyl-1H-3a,7-methanoazulen-5-yl)-, [3R-(3alpha,3abeta,7beta,8aalpha)]- / ethanone, 1-(2,3,4,7,8,8a-hexahydro-3,6,8,8-tetramethyl-1H-3a,7-methanoazulen-5-yl)-, [3theta-(3 alpha,3a beta,7 beta,8a alpha)]- / VERTOFIX COEUR SALES	(CAS-No.) 32388-55-9	5 – 10	Skin Sens. 1B, H317
ALPHA-TERPINEOL		(CAS-No.) 98-55-5	5 – 10	Flam. Liq. 4, H227 Skin Irrit. 2, H315 Eye Irrit. 2A, H319
D-LIMONENE	(+)-1-methyl-4-isopropenyl-1-cyclohexene / (+)-4-isopropenyl-1-methylcyclohexene / (+)-cajeputene / (+)-carvene / (+)-citrene / (+)-para-mentha-1,8-diene / (+)-p-mentha-1,8-diene / (+)-R-limonene / (R)-(+)-4-isopropenyl-1-methyl-1-cyclohexene / (R)-(+)-limonene / (R)-1-methyl-4-(1-methylethenyl)cyclohexene / (R)-4-isopropenyl-1-methyl-1-cyclohexene / (R)-p-mentha-1,8-diene / 1,8-menthadiene, D- / 1-methyl-4-(1-methylethenyl)cyclohexene, (R)- / 200000000233 / cyclohexene, 1-methyl-4-(1-methylethenyl)-, (R)- / cyclohexene, 1-methyl-4-(1-methylethenyl)-, (theta)- / cyclohexene, 4-isopropenyl-1-methyl- / D-(+)-limonene / dextro-limonene / dextro-para-mentha-1,8-diene / d-limonene / D-para-mentha-1,8-diene / D-p-mentha-1,8-diene / limonene, (R)-(+)- / limonene, D-(+)- / limonene, dextro- / para-mentha-1,8-diene, (R)-(+)- / p-mentha-1,8-diene, (R)-(+)- / p-mentha-1,8-diene, D- / R-(+)-limonen / refchole	(CAS-No.) 5989-27-5	1 – 5	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Asp. Tox. 1, H304
COUMARIN		(CAS-No.) 91-64-5	1 – 5	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Skin Sens. 1B, H317

Name	Chemical name / Synonyms	Product identifier	%	Classification (GHS CA)
PIPERONAL	1,3-Benzodioxole-5-carboxaldehyde / 3,4-(methylenedioxy)benzaldehyde / 3,4-benzodioxole-5-carboxaldehyde / 3,4-dihydroxybenzaldehydemethyleneketal / 3,4-dimethylenedioxybenzaldehyde / 3,4-methylene-dihydroxybenzaldehyde / 3,4-methylenedioxybenzaldehyde / 5-formyl-1,3-benzodioxole / benzaldehyde, 3,4-(methylenedioxy)- / dioxymethylene-protocatechuic aldehyde / FEMA No 2911 / geliotropin / heliotropin / piperonal / piperonaldehyde / piperonyl aldehyde / protocatechuic aldehyde methylene ether	(CAS-No.) 120-57-0	1 – 5	Skin Sens. 1B, H317
2-Isobutyl-4-methyltetrahydro-2H-pyran-4-ol		(CAS-No.) 63500-71-0	1 – 5	Eye Irrit. 2A, H319
GERANIOL		(CAS-No.) 106-24-1	1 – 5	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317
EUGENOL		(CAS-No.) 97-53-0	1 – 5	Eye Irrit. 2A, H319 Skin Sens. 1B, H317
Isoeugenyl methyl ether		(CAS-No.) 93-16-3	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

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 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.

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 : Call a poison center/doctor/physician if you feel unwell.

First-aid measures general : IF exposed or concerned: Get medical advice/attention.

4.2. Most important symptoms and effects (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 : No data available.

4.3. Immediate medical attention and special treatment, if necessary

Other medical advice or treatment : Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Unsuitable extinguishing media

Unsuitable extinguishing media : Do not use a heavy water stream.

5.3. Specific hazards arising from the hazardous product

Fire hazard : Combustible liquid.

Explosion hazard : No direct explosion hazard.

5.4. Special protective equipment and precautions for fire-fighters

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 measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage.

6.2. Methods and materials for containment and cleaning up

For containment : Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak, if possible without risk.

Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

6.3. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection"

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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.

Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.

7.2. Conditions for safe storage, including 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

CITRAL (5392-40-5)		
USA - ACGIH	ACGIH OEL TWA	5 ppm (IFV - Inhalable fraction and vapor)
USA - ACGIH	Remark (ACGIH)	TLV® Basis: Body weight eff; URT irr; eye dam. Notations: Skin; DSEN; A4 (Not classifiable as a Human Carcinogen)
USA - ACGIH	Regulatory reference	ACGIH 2024

BENZYL ACETATE (140-11-4)		
USA - ACGIH	ACGIH OEL TWA	10 ppm
USA - ACGIH	Remark (ACGIH)	URT irr
USA - ACGIH	Regulatory reference	ACGIH 2024

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : 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

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.

Personal protective equipment symbol(s):

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	No data available
Color	:	YELLOW TO AMBER
Odor	:	CHARACTERISTIC, MATCHING RETAINER SAMPLE
Odor threshold	:	No data available
pH	:	No data available
Relative evaporation rate (butyl acetate=1)	:	No data available
Relative evaporation rate (ether=1)	:	No data available
Melting point	:	Not applicable
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	83 °C
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability	:	Not applicable
Vapor pressure	:	No data available
Vapor pressure at 50°C	:	No data available
Relative density	:	0.929 (0.919 – 0.939)
Solubility	:	Insoluble.
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Explosion limits	:	No data available

9.2. Other information

Refractive index	:	1.481 (1.471 – 1.491)

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	:	The product is non-reactive under normal conditions of use, storage and transport.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reactions known under normal conditions of use.
Conditions to avoid	:	Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	:	Not classified
Acute toxicity (dermal)	:	Not classified
Acute toxicity (inhalation)	:	Not classified

COUMARIN CRYSTALS (91-64-5)	
LD50 oral rat	293 mg/kg body weight Animal: rat, Guideline: other:
LD50 dermal rat	293 mg/kg body weight Animal: rat, Guideline: other:
ATE CA (oral)	290 mg/kg body weight
ATE CA (Dermal)	293 mg/kg body weight

Geraniol (106-24-1)	
LD50 oral	3600 mg/kg body weight
ATE CA (oral)	3600 mg/kg body weight

alpha-Terpineol (98-55-5)	
LD50 oral rat	4300 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 2900 - 5700
LD50 oral	4300 mg/kg body weight
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
ATE CA (oral)	4300 mg/kg body weight

Linalool (78-70-6)	
LD50 oral	2790 mg/kg
ATE CA (oral)	2790 mg/kg body weight

VERTOFIX (32388-55-9)	
LD50 oral	4500 mg/kg
LD50 dermal rabbit	> 5000 mg/kg body weight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Remarks on results: other:
ATE CA (oral)	4500 mg/kg body weight

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))

p-Mentha-1,4-diene (99-85-4)	
LD50 oral	3650 mg/kg body weight
ATE CA (oral)	3650 mg/kg body weight

Isoeugenyl methyl ether (93-16-3)	
LD50 oral	2500 mg/kg
ATE CA (oral)	2500 mg/kg body weight

HELIOTROPINE CRYSTALS (120-57-0)	
LD50 oral rat	2700 mg/kg body weight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), Remarks on results: other:, 95% CL: 2350 - 3100
LD50 oral	2700 mg/kg body weight
LD50 dermal rat	> 5000 mg/kg body weight Animal: rat, Guideline: other:, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Remarks on results: other:
ATE CA (oral)	2700 mg/kg body weight

Skin corrosion/irritation : Causes skin irritation.

Serious eye damage/irritation : Causes serious eye irritation.

Respiratory or skin sensitization : May cause an allergic skin reaction.

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Suspected of damaging fertility or the unborn child.

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

COUMARIN CRYSTALS (91-64-5)	
NOAEL (subchronic,oral,animal/female,90 days)	> 138.3 mg/kg body weight Animal: mouse, Animal sex: female

alpha-Terpineol (98-55-5)	
NOAEL (oral,rat,90 days)	≥ 314 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)

HELIOTROPINE CRYSTALS (120-57-0)	
NOAEL (oral,rat,90 days)	300 mg/kg body weight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test), Guideline: other:

Aspiration hazard : Not classified

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 : No data available.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short–term (acute) : Not classified
Hazardous to the aquatic environment, long–term (chronic) : Not classified

COUMARIN CRYSTALS (91-64-5)	
LC50 - Fish [1]	2.94 mg/l Test organisms (species):
LC50 - Fish [2]	1324 mg/l Test organisms (species):
EC50 - Crustacea [1]	8012 mg/l Test organisms (species): Daphnia sp.
EC50 96h - Algae [1]	1452 mg/l Test organisms (species):
NOEC chronic fish	0.191 mg/l Test organisms (species): Duration: '30 d'
NOEC (chronic)	0.5 mg/l Test organisms (species): Duration: '21 d'

alpha-Terpineol (98-55-5)	
LC50 - Fish [1]	70 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	73 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	≈ 68 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	≈ 17 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)

VERTOFIX (32388-55-9)	
LC50 - Fish [1]	3 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Pimephales promelas, Static system, Experimental value, GLP)
LC50 - Fish [2]	3 mg/l Test organisms (species): Pimephales promelas
EC50 - Crustacea [1]	0.86 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Experimental value, GLP)
ErC50 algae	> 4.3 mg/l (OECD 201: Alga, Growth Inhibition Test, 96 h, Pseudokirchneriella subcapitata, Static system, Experimental value, GLP)
EC50 96h - Algae [1]	2.8 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [2]	> 4.3 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
NOEC (chronic)	0.087 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
BCF - Fish [1]	867 – 3920 (OECD 305: Bioconcentration: Flow-Through Fish Test, 28 day(s), Oncorhynchus mykiss, Flow-through system, Fresh water, Experimental value, GLP)
Partition coefficient n-octanol/water (Log Pow)	5.6 – 5.9 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.5 – 5.1 (log Koc, OECD 121: Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using High Performance Liquid Chromatography (HPLC), Experimental value, GLP)
LOEC (chronic)	0.23 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

d-Limonene (5989-27-5)	
LC50 - Fish [1]	720 µg/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value)
LC50 - Fish [2]	702 µg/l Test organisms (species): Pimephales promelas
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)
EC50 - Crustacea [2]	0.51 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	0.32 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	0.214 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
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)

d-Limonene (5989-27-5)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.049 – 3.801 (log Koc, SRC PCKOCWIN v2.0, Calculated value)

HELIOTROPINE CRYSTALS (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)
EC50 72h - Algae [1]	31 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	6.8 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
Partition coefficient n-octanol/water (Log Pow)	1.2 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 35 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.1 (log Koc, Calculated value)

12.2. Persistence and degradability

VERTOFIX (32388-55-9)	
Persistence and degradability	Not readily biodegradable in water.

d-Limonene (5989-27-5)	
Persistence and degradability	Readily biodegradable in water.
ThOD	3.29 g O_2/g substance

HELIOTROPINE CRYSTALS (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

VERTOFIX (32388-55-9)	
Bioaccumulative potential	Potential for bioaccumulation (500 ≤ BCF ≤ 5000).
BCF - Fish [1]	867 – 3920 (OECD 305: Bioconcentration: Flow-Through Fish Test, 28 day(s), Oncorhynchus mykiss, Flow-through system, Fresh water, Experimental value, GLP)
Partition coefficient n-octanol/water (Log Pow)	5.6 – 5.9 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.5 – 5.1 (log Koc, OECD 121: Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using High Performance Liquid Chromatography (HPLC), Experimental value, GLP)

d-Limonene (5989-27-5)	
Bioaccumulative potential	Potential for bioaccumulation (4 ≤ Log Kow ≤ 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)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.049 – 3.801 (log Koc, SRC PCKOCWIN v2.0, Calculated value)

HELIOTROPINE CRYSTALS (120-57-0)	
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
Partition coefficient n-octanol/water (Log Pow)	1.2 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 35 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.1 (log Koc, Calculated value)

12.4. Mobility in soil

VERTOFIX (32388-55-9)	
Ecology - soil	Low potential for mobility in soil.
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.5 – 5.1 (log Koc, OECD 121: Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using High Performance Liquid Chromatography (HPLC), Experimental value, GLP)
Partition coefficient n-octanol/water (Log Pow)	5.6 – 5.9 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method)

d-Limonene (5989-27-5)	
Surface tension	No data available in the literature
Ecology - soil	Low potential for mobility in soil.

d-Limonene (5989-27-5)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.049 – 3.801 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Partition coefficient n-octanol/water (Log Pow)	4.38 (Experimental value, Equivalent or similar to OECD 117, 37 °C)

HELIOTROPINE CRYSTALS (120-57-0)	
Ecology - soil	Highly mobile in soil.
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.1 (log Koc, Calculated value)
Partition coefficient n-octanol/water (Log Pow)	1.2 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 35 °C)

12.5. Other adverse effects

Ozone : Not classified

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional waste regulation : Disposal must be done according to official regulations.

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Sewage disposal recommendations : Disposal must be done according to official regulations.

Product/Packaging disposal recommendations : Disposal must be done according to official regulations.

Additional information : Do not re-use empty containers.

SECTION 14: Transport information

14.1. Basic shipping description

In accordance with TDG

Transportation of Dangerous Goods

Not regulated for transport

14.2. Transport information/DOT

Department of Transport

DOT NA No : UN1266

UN-No.(DOT) : 1266

Packing group (DOT) : III - Minor Danger

Transport document description (DOT) : UN1266 Perfumery products (Regulated for Bulk only), Comb Liq, III

Proper Shipping Name (DOT) : Perfumery products
(Regulated for Bulk only)

Contains Statement Field Selection (DOT) :

Class (DOT) : Comb Liq - Combustible liquid

Division (DOT) : Combustible liquid

Dangerous for the environment : No

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..... 178.275(d)(3)
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 97 / 1 + a (tr - tf) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.

DOT Packaging Exceptions (49 CFR 173.xxx) : 150

DOT Packaging Non Bulk (49 CFR 173.xxx) : 203

DOT Packaging Bulk (49 CFR 173.xxx) : 242

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 60 L

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 220 L

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.

14.3. Air and sea transport

IMDG

Not regulated for transport

IATA

Not regulated for transport

SECTION 15: Regulatory information

15.1. National regulations

COUMARIN CRYSTALS (91-64-5)

Listed on the Canadian DSL (Domestic Substances List)

FLOROL (63500-71-0)

Listed on the Canadian DSL (Domestic Substances List)

alpha-Terpineol (98-55-5)

Listed on the Canadian DSL (Domestic Substances List)

Linalool (78-70-6)

Listed on the Canadian DSL (Domestic Substances List)

Linalyl acetate (115-95-7)

Listed on the Canadian DSL (Domestic Substances List)

VERTOFIX (32388-55-9)

Listed on the Canadian DSL (Domestic Substances List)

d-Limonene (5989-27-5)

Listed on the Canadian DSL (Domestic Substances List)

Canada DSL NDSL Flags	Significant New Activity (SNAc) provisions of the Act apply

Eugenol (97-53-0)

Listed on the Canadian DSL (Domestic Substances List)

p-Mentha-1,4-diene (99-85-4)

Listed on the Canadian DSL (Domestic Substances List)

Isoeugenyl methyl ether (93-16-3)

Listed on the Canadian DSL (Domestic Substances List)

HELIOTROPINE CRYSTALS (120-57-0)

Listed on the Canadian DSL (Domestic Substances List)

15.2. International regulations

COUMARIN CRYSTALS (91-64-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

FLOROL (63500-71-0)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

alpha-Terpineol (98-55-5)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Linalool (78-70-6)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Linalyl acetate (115-95-7)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

VERTOFIX (32388-55-9)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

d-Limonene (5989-27-5)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Eugenol (97-53-0)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

p-Mentha-1,4-diene (99-85-4)
Listed on INSQ (Mexican National Inventory of Chemical Substances)

Isoeugenyl methyl ether (93-16-3)
Listed on INSQ (Mexican National Inventory of Chemical Substances)

HELIOTROPINE CRYSTALS (120-57-0)
Listed on INSQ (Mexican National Inventory of Chemical Substances)

SECTION 16: Other information

SDS Major/Minor : None
Issue date : 05/05/2020
Revision date : 02/10/2025
Supersedes : 03/25/2021

Full text of H-phrases:

H226	Flammable liquid and vapor
H227	Combustible liquid
H301	Toxic if swallowed
H304	May be fatal if swallowed and enters airways
H311	Toxic in contact with skin
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
H361	Suspected of damaging fertility or the unborn child

SDS Canada (GHS) - 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.