Safety Data Sheet

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Document Group:	06-8476-1	**Version Number:**	24.00
Issue Date:	07/27/26	**Supersedes Date:**	03/23/26

SECTION 1: Identification

1.1. Product identifier
3M™ Deodorizer - Mountain Spice - Concentrate (Product No. 14, Twist 'n Fill™ System)

Product Identification Numbers

ID Number	UPC	ID Number	UPC
61-0000-6337-2		70-0708-4014-8	00-48011-20120-2
70-0716-6114-7		70-0716-8288-7	00-48011-20120-2

7000002090, 7100057516, 7010328501, 7100202869

1.2. Recommended use and restrictions on use

Recommended use
Deodorizer, Long-lasting deodorizer leaves a fragrant, spicy scent.

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Commercial Branding and Transportation Division
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number
1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification
Acute Toxicity (oral): Category 4.
Skin Corrosion/Irritation: Category 2.
Serious Eye Damage/Irritation: Category 1.
Skin Sensitizer: Category 1.
Reproductive Toxicity: Category 2.

2.2. Label elements
Signal word
Danger

Symbols
Corrosion |Exclamation mark |Health Hazard |

Pictograms

Hazard Statements

Harmful if swallowed.
Causes skin irritation.
Causes serious eye damage.
May cause an allergic skin reaction.
Suspected of damaging fertility or the unborn child.

Precautionary statements

Prevention:
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing vapors.
Wash exposed skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves, eye protection, and face protection.

Response:
IF ON SKIN: Wash with plenty of soap and 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: Immediately call a POISON CENTER or doctor.
Rinse mouth.
If skin irritation or rash occurs: Get medical attention.
Take off contaminated clothing and wash it before reuse.

Storage:
Store locked up.

Disposal:
Dispose of contents and container in accordance with applicable local, regional, national, and international regulations.

14% of the mixture consists of ingredients of unknown acute oral toxicity.
15% of the mixture consists of ingredients of unknown acute dermal toxicity.
29% of the mixture consists of ingredients of unknown acute inhalation toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
C8-10 Alcohols Ethoxylated Propoxylated	68603-25-8	15 - 40 Trade Secret *
Polysorbate 20	9005-64-5	10 - 30
Water	7732-18-5	10 - 30

Fragrance (NJTSRN 04499600-6518)	Trade Secret*	< 8
Terpineol	98-55-5	1 - 5 Trade Secret *
Methoxyisopropanol	107-98-2	1 - 5 Trade Secret *
Cinnamal	104-55-2	1 - 5 Trade Secret *
Eucalyptus Oil	8000-48-4	1 - 5 Trade Secret *
Clove Oils	8000-34-8	< 3
Isobornyl Acetate	125-12-2	< 2
Phenethyl Acetate	103-45-7	< 2
Cinnamon Oil	8015-91-6	< 2
2-t-Butylcyclohexyl Acetate	88-41-5	< 2
Amyl Cinnamal	122-40-7	0.1 - 1.5 Trade Secret *
Benzeneethanol	60-12-8	0.1 - 1.5 Trade Secret *
BENZYL SALICYLATE	118-58-1	0.1 - 1.5 Trade Secret *
Eugenol	97-53-0	0.1 - 1.5 Trade Secret *
Geraniol	106-24-1	0.1 - 1.5 Trade Secret *
Terpenes and terpenoids, sweet orange-oil	68647-72-3	0.1 - 1.5 Trade Secret *
Linalool	78-70-6	0.1 - 1.5 Trade Secret *
Linalyl Acetate	115-95-7	0.1 - 1.5 Trade Secret *
COUMARIN	91-64-5	0.1 - 1.5 Trade Secret *
2-PROPENYL 3-CYCLOHEXYLPROPANOATE	2705-87-5	< 0.5
3-Cyclohexene-1-carboxaldehyde, 2,4-dimethyl-	68039-49-6	< 0.3
ACETIC ACID, (3-METHYLBUTOXY)-, 2-PROPENYL ESTER	67634-00-8	< 0.3
HEXAHYDRO-HEXAMETHYL-CYCLOPENTA-GAMMA-2-BENZOPYRAN	1222-05-5	< 0.3
CITRAL	5392-40-5	< 0.3
Acid Green 25	4403-90-1	< 0.1
Acid Yellow 73 Sodium Salt	518-47-8	< 0.1
Acid Violet 43	4430-18-6	< 0.01

NJTS or NJTSRN: New Jersey Trade Secret Registry Number.

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:
Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:
Immediately flush with large amounts of water for at least 15 minutes. Remove contact lenses if easy to do. Continue rinsing. Immediately get medical attention.

If Swallowed:
Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Allergic skin reaction (redness, swelling, blistering, and itching). Serious damage to the eyes (corneal cloudiness, severe pain, tearing, ulcerations, and significantly impaired or loss of vision).

4.3. Indication of any immediate medical attention and special treatment required
Not applicable.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture
Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

Substance	Condition
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion

5.3. Special protective actions for fire-fighters
Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Use personal protective equipment based on the results of an exposure assessment. Refer to Section 8 for PPE recommendations. If anticipated exposure resulting from an accidental release exceeds the protective capabilities of the PPE listed in Section 8, or are unknown, select PPE that offers an appropriate level of protection. Consider the physical and chemical hazards of the material when doing so. Examples of PPE ensembles for emergency response could include wearing bunker gear for a release of flammable material; wearing chemical protective clothing if the spilled material is a corrosive, a sensitizer, a significant dermal irritant, or can be absorbed through the skin; or donning a positive pressure supplied-air respirator for chemicals with inhalation hazards. For information regarding physical and health hazards, refer to sections 2 and 11 of the SDS.

6.2. Environmental precautions
Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up
Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with water. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
For industrial/occupational use only. Not for consumer sale or use. This product is not intended to be used without prior dilution as specified on the product label. Grounding or safety shoes with electrostatic dissipating soles (ESD) are not

required with a chemical dispensing system. Keep out of reach of children. Do not handle until all safety precautions have been read and understood. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities
Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Methoxyisopropanol	107-98-2	ACGIH	TWA:50 ppm;STEL:100 ppm	A4: Not class. as human carcin
CITRAL	5392-40-5	ACGIH	TWA(inhalable fraction and vapor):5 ppm	A4: Not class. as human carcin, SKIN; Dermal sensitizer
Benzeneethanol	60-12-8	ACGIH	TWA:0.5 ppm	Danger of cutaneous absorption

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
NOTE: When used with a 3M branded chemical dispensing system, such as 3M(TM) Flow Control System or 3M(TM) Twist 'n Fill(TM) Cleaning Chemical Dispenser as directed, special ventilation is not required. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

NOTE: When used with a 3M branded chemical dispensing system, such as 3M(TM) Flow Control System or 3M(TM) Twist 'n Fill(TM) Cleaning Chemical Dispenser, as directed, eye contact with the concentrate is not expected to occur. The following protection(s) are recommended if the product is not used with a chemical dispensing system or if there is an accidental release, wear protective eye/face protection. Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Full Face Shield
Indirect Vented Goggles

Skin/hand protection
NOTE: When used with a 3M branded chemical dispensing system, such as 3M(TM) Flow Control System or 3M(TM) Twist 'n Fill(TM) Cleaning Chemical Dispenser as directed, skin contact with the concentrate is not expected to occur.

If product is not used with a chemical dispensing system or if there is an accidental release:
NOTE: When used with a 3M branded chemical dispensing system, such as 3M(TM) Flow Control System or 3M(TM) Twist 'n Fill(TM) Cleaning Chemical Dispenser as directed, skin contact with the concentrate is not expected to occur. Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.
Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.

Gloves made from the following material(s) are recommended: Polymer laminate

If this product is used in a manner that presents a higher potential for exposure (e.g., spraying, high splash potential, etc.), then use of a protective apron may be necessary. See recommended glove material(s) for determining appropriate apron material(s). If a glove material is not available as an apron, polymer laminate is a suitable option.

Respiratory protection

If product is not used with a chemical dispensing system or if there is an accidental release:
NOTE: When used with a 3M branded chemical dispensing system, such as 3M(TM) Flow Control System or 3M(TM) Twist 'n Fill(TM) Cleaning Chemical Dispenser as directed, respiratory protection is not required.
If product is not used with a chemical dispensing system or if there is an accidental release:
An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapors
Half facepiece or full facepiece supplied-air respirator

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Specific Physical Form:	Liquid
Color	Green
Odor	Strong Spicy
Odor threshold	*No Data Available*
pH	6.5 - 8.5
Melting point	*Not Applicable*
Boiling Point	Approximately 200 ºF
Flash Point	> 200 ºF [*Test Method:*Closed Cup]
Evaporation rate	*No Data Available*
Flammability	Not Applicable
Flammable Limits(LEL)	*No Data Available*
Flammable Limits(UEL)	*No Data Available*
Vapor Pressure	*No Data Available*
Relative Vapor Density	*No Data Available*
Density	1.019 - 1.039 g/ml
Relative Density	1.019 - 1.039 [*Ref Std:*WATER=1]
Solubility in Water	Complete
Solubility- non-water	*No Data Available*
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	*No Data Available*

Decomposition temperature	*No Data Available*
Kinematic Viscosity	91.3 mm2/sec
Molecular weight	*Not Applicable*
Volatile Organic Compounds	1 - 5 % weight [*Test Method:*calculated per CARB title 2]
VOC Less H2O & Exempt Solvents	25 - 35 g/l [*Test Method:*calculated per CARB title 2]

Particle Characteristics *Not Applicable*

SECTION 10: Stability and reactivity

10.1. Reactivity
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
None known.

10.5. Incompatible materials
Strong oxidizing agents

10.6. Hazardous decomposition products

Substance	Condition
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:
Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Skin Contact:
May be harmful in contact with skin. Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain. Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye Contact:

Corrosive (Eye Burns): Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

Ingestion:
Harmful if swallowed. Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea. May cause additional health effects (see below).

Additional Health Effects:

Reproductive/Developmental Toxicity:
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Toxicological Data
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >2,000 - =5,000 mg/kg
Overall product	Inhalation-Vapor(4 hr)		No data available; calculated ATE >50 mg/l
Overall product	Ingestion		No data available; calculated ATE >300 - =2,000 mg/kg
C8-10 Alcohols Ethoxylated Propoxylated	Dermal	Rabbit	LD50 >= 1,680 mg/kg
C8-10 Alcohols Ethoxylated Propoxylated	Ingestion	Rat	LD50 >= 810 mg/kg
Polysorbate 20	Ingestion	Hamster	LD50 18,000 mg/kg
Polysorbate 20	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
Polysorbate 20	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.1 mg/l
Cinnamal	Dermal	Rabbit	LD50 > 2,000 mg/kg
Eucalyptus Oil	Dermal	Rabbit	LD50 > 5,000 mg/kg
Cinnamal	Ingestion	Rat	LD50 2,200 mg/kg
Eucalyptus Oil	Ingestion	Rat	LD50 2,334 mg/kg
Terpineol	Dermal	similar compounds	LD50 > 2,000 mg/kg
Terpineol	Ingestion	similar compounds	LD50 > 2,000 mg/kg
Methoxyisopropanol	Dermal	Rabbit	LD50 11,000-13,800 mg/kg
Methoxyisopropanol	Inhalation-Vapor (4 hours)	Rat	LC50 56 mg/l
Methoxyisopropanol	Ingestion	Rat	LD50 6,100 mg/kg
Linalool	Dermal	Rabbit	LD50 5,610 mg/kg
Linalool	Ingestion	Rat	LD50 2,790 mg/kg
Eugenol	Dermal		LD50 estimated to be 2,000 - 5,000 mg/kg
Terpenes and terpenoids, sweet orange-oil	Inhalation-Vapor (4 hours)	Mouse	LC50 > 3.14 mg/l
Amyl Cinnamal	Dermal	Rabbit	LD50 > 2,000 mg/kg
BENZYL SALICYLATE	Dermal	Rabbit	LD50 14,150 mg/kg
Geraniol	Dermal	Rabbit	LD50 > 5,000 mg/kg
Isobornyl Acetate	Dermal	Rabbit	LD50 20,000 mg/kg
Linalyl Acetate	Dermal	Rabbit	LD50 5,610 mg/kg
Terpenes and terpenoids, sweet orange-oil	Dermal	Rabbit	LD50 > 5,000 mg/kg
Amyl Cinnamal	Ingestion	Rat	LD50 3,730 mg/kg

BENZYL SALICYLATE	Ingestion	Rat	LD50 2,227 mg/kg
COUMARIN	Ingestion	Rat	LD50 > 300 mg/kg
Eugenol	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 2.58 mg/l
Eugenol	Ingestion	Rat	LD50 > 2,000 mg/kg
Geraniol	Ingestion	Rat	LD50 3,600 mg/kg
Isobornyl Acetate	Ingestion	Rat	LD50 > 10,000 mg/kg
Linalyl Acetate	Ingestion	Rat	LD50 > 9,000 mg/kg
Terpenes and terpenoids, sweet orange-oil	Ingestion	Rat	LD50 4,400 mg/kg
Benzeneethanol	Dermal	Rabbit	LD50 2,535 mg/kg
Benzeneethanol	Ingestion	Rat	LD50 1,609 mg/kg
2-PROPENYL 3-CYCLOHEXYLPROPANOATE	Dermal	Rabbit	LD50 1,600 mg/kg
3-Cyclohexene-1-carboxaldehyde, 2,4-dimethyl-	Dermal	Rabbit	LD50 > 5,000 mg/kg
CITRAL	Dermal	Rabbit	LD50 2,250 mg/kg
2-PROPENYL 3-CYCLOHEXYLPROPANOATE	Ingestion	Rat	LD50 585 mg/kg
3-Cyclohexene-1-carboxaldehyde, 2,4-dimethyl-	Ingestion	Rat	LD50 3,900 mg/kg
ACETIC ACID, (3-METHYLBUTOXY)-, 2-PROPENYL ESTER	Dermal	Rat	LD50 > 2,000 mg/kg
ACETIC ACID, (3-METHYLBUTOXY)-, 2-PROPENYL ESTER	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.43 mg/l
ACETIC ACID, (3-METHYLBUTOXY)-, 2-PROPENYL ESTER	Ingestion	Rat	LD50 >300, <2000 mg/kg
CITRAL	Ingestion	Rat	LD50 6,800 mg/kg
HEXAHYDRO-HEXAMETHYL-CYCLOPENTA-GAMMA-2-BENZOPYRAN	Dermal	Rat	LD50 > 2,000 mg/kg
HEXAHYDRO-HEXAMETHYL-CYCLOPENTA-GAMMA-2-BENZOPYRAN	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.04 mg/l
HEXAHYDRO-HEXAMETHYL-CYCLOPENTA-GAMMA-2-BENZOPYRAN	Ingestion	Rat	LD50 > 2,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
C8-10 Alcohols Ethoxylated Propoxylated	Rabbit	Irritant
Polysorbate 20	Rabbit	Minimal irritation
Cinnamal	Human	Mild irritant
Eucalyptus Oil	Rabbit	Irritant
Terpineol	Rabbit	Irritant
Methoxyisopropanol	Not available	Minimal irritation
Linalool	Rabbit	Irritant
Amyl Cinnamal	similar compounds	Irritant
BENZYL SALICYLATE	Rabbit	Minimal irritation
Eugenol	Rabbit	Mild irritant
Geraniol	Rabbit	Irritant
Isobornyl Acetate	Rabbit	Mild irritant
Linalyl Acetate	Rabbit	Irritant
Terpenes and terpenoids, sweet orange-oil	Rabbit	Irritant
Benzeneethanol	Rabbit	Minimal irritation
2-PROPENYL 3-CYCLOHEXYLPROPANOATE	Professional judgement	Mild irritant
3-Cyclohexene-1-carboxaldehyde, 2,4-dimethyl-	Rabbit	Corrosive
ACETIC ACID, (3-METHYLBUTOXY)-, 2-PROPENYL ESTER	Rat	No significant irritation
CITRAL	Rabbit	Irritant
HEXAHYDRO-HEXAMETHYL-CYCLOPENTA-GAMMA-2-BENZOPYRAN	In vitro data	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
C8-10 Alcohols Ethoxylated Propoxylated	Rabbit	Corrosive
Polysorbate 20	Rabbit	No significant irritation
Cinnamal	Human	Moderate irritant
Eucalyptus Oil	Rabbit	Mild irritant
Terpineol	similar compounds	Moderate irritant
Methoxyisopropanol	Not available	Mild irritant
Linalool	Rabbit	Moderate irritant
Amyl Cinnamal	similar compounds	Mild irritant
BENZYL SALICYLATE	Rabbit	Moderate irritant
Eugenol	Rabbit	Severe irritant
Geraniol	Rabbit	Corrosive
Isobornyl Acetate	Rabbit	Mild irritant
Linalyl Acetate	Rabbit	Mild irritant
Terpenes and terpenoids, sweet orange-oil	Rabbit	Mild irritant
Benzeneethanol	Rabbit	Corrosive
2-PROPENYL 3-CYCLOHEXYLPROPANOATE	Rabbit	No significant irritation
3-Cyclohexene-1-carboxaldehyde, 2,4-dimethyl-	similar health hazards	Corrosive
CITRAL	Rabbit	Severe irritant
HEXAHYDRO-HEXAMETHYL-CYCLOPENTA-GAMMA-2-BENZOPYRAN	In vitro data	No significant irritation

Skin Sensitization

Name	Species	Value
Polysorbate 20	Guinea pig	Not classified
Cinnamal	Human and animal	Sensitizing
Eucalyptus Oil	similar compounds	Sensitizing
Terpineol	Mouse	Not classified
Methoxyisopropanol	Guinea pig	Not classified
Linalool	Mouse	Sensitizing
Amyl Cinnamal	Mouse	Sensitizing
BENZYL SALICYLATE	Mouse	Sensitizing
COUMARIN	Human	Some positive data exist, but the data are not sufficient for classification
Eugenol	Mouse	Sensitizing
Geraniol	Human and animal	Sensitizing
Isobornyl Acetate	Human	Not classified
Linalyl Acetate	Mouse	Sensitizing
Terpenes and terpenoids, sweet orange-oil	Mouse	Sensitizing
2-PROPENYL 3-CYCLOHEXYLPROPANOATE	Guinea pig	Sensitizing
3-Cyclohexene-1-carboxaldehyde, 2,4-dimethyl-	Multiple animal species	Sensitizing
CITRAL	Human and animal	Sensitizing

HEXAHYDRO-HEXAMETHYL-CYCLOPENTA-GAMMA-2-BENZOPYRAN	Guinea pig	Not classified

Photosensitization

Name	Species	Value
3-Cyclohexene-1-carboxaldehyde, 2,4-dimethyl-	Human and animal	Not sensitizing
HEXAHYDRO-HEXAMETHYL-CYCLOPENTA-GAMMA-2-BENZOPYRAN	Guinea pig	Not sensitizing

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
Polysorbate 20	In Vitro	Not mutagenic
Cinnamal	In vivo	Not mutagenic
Cinnamal	In Vitro	Some positive data exist, but the data are not sufficient for classification
Eucalyptus Oil	In Vitro	Not mutagenic
Terpineol	In Vitro	Not mutagenic
Methoxyisopropanol	In Vitro	Not mutagenic
Linalool	In Vitro	Not mutagenic
Linalool	In vivo	Not mutagenic
Amyl Cinnamal	In Vitro	Not mutagenic
BENZYL SALICYLATE	In Vitro	Not mutagenic
Eugenol	In Vitro	Not mutagenic
Eugenol	In vivo	Not mutagenic
Geraniol	In Vitro	Not mutagenic
Isobornyl Acetate	In Vitro	Not mutagenic
Isobornyl Acetate	In vivo	Not mutagenic
Linalyl Acetate	In Vitro	Not mutagenic
Terpenes and terpenoids, sweet orange-oil	In Vitro	Not mutagenic
Terpenes and terpenoids, sweet orange-oil	In vivo	Not mutagenic
2-PROPENYL 3-CYCLOHEXYLPROPANOATE	In Vitro	Not mutagenic
2-PROPENYL 3-CYCLOHEXYLPROPANOATE	In vivo	Not mutagenic
3-Cyclohexene-1-carboxaldehyde, 2,4-dimethyl-	In Vitro	Not mutagenic
ACETIC ACID, (3-METHYLBUTOXY)-, 2-PROPENYL ESTER	In Vitro	Not mutagenic
CITRAL	In vivo	Not mutagenic
CITRAL	In Vitro	Some positive data exist, but the data are not sufficient for classification
HEXAHYDRO-HEXAMETHYL-CYCLOPENTA-GAMMA-2-BENZOPYRAN	In Vitro	Not mutagenic
HEXAHYDRO-HEXAMETHYL-CYCLOPENTA-GAMMA-2-BENZOPYRAN	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Methoxyisopropanol	Inhalation	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
Eugenol	Ingestion	Mouse	Some positive data exist, but the data are not sufficient for classification
Terpenes and terpenoids, sweet orange-oil	Ingestion	Rat	Some positive data exist, but the data are not sufficient for classification
CITRAL	Ingestion	Mouse	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Polysorbate 20	Ingestion	Not classified for development	Rat	NOAEL 500 mg/kg/day	during organogenesis
Cinnamal	Ingestion	Not classified for development	Rat	NOAEL 250 mg/kg/day	during organogenesis
Eucalyptus Oil	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
Eucalyptus Oil	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	5 weeks
Eucalyptus Oil	Ingestion	Not classified for development	Rat	NOAEL 300 mg/kg/day	premating into lactation
Terpineol	Ingestion	Toxic to male reproduction	similar compounds	NOAEL 250 mg/kg/day	5 weeks
Methoxyisopropanol	Inhalation	Not classified for male reproduction	Rat	NOAEL 11 mg/l	2 generation
Methoxyisopropanol	Ingestion	Not classified for female reproduction	Mouse	NOAEL 3,328 mg/kg/day	2 generation
Methoxyisopropanol	Inhalation	Not classified for female reproduction	Rat	NOAEL 3.7 mg/l	2 generation
Methoxyisopropanol	Ingestion	Not classified for male reproduction	Mouse	NOAEL 3,328 mg/kg	2 generation
Methoxyisopropanol	Ingestion	Not classified for development	Rat	NOAEL 370 mg/kg	during gestation
Methoxyisopropanol	Inhalation	Not classified for development	Rat	NOAEL 3.7 mg/l	2 generation
Linalool	Ingestion	Not classified for female reproduction	Rat	NOAEL 365 mg/kg/day	premating into lactation
Linalool	Ingestion	Not classified for development	Rat	NOAEL 365 mg/kg/day	premating into lactation
BENZYL SALICYLATE	Ingestion	Not classified for female reproduction	Rat	NOAEL 166 mg/kg/day	premating into lactation
BENZYL SALICYLATE	Ingestion	Not classified for male reproduction	Rat	NOAEL 158 mg/kg/day	28 days
BENZYL SALICYLATE	Ingestion	Not classified for development	Rat	NOAEL 72 mg/kg/day	during gestation
Geraniol	Dermal	Not classified for female reproduction	Rat	NOAEL 300 mg/kg/day	premating into lactation
Geraniol	Ingestion	Not classified for female reproduction	Rat	NOAEL 800 mg/kg/day	2 generation
Geraniol	Dermal	Not classified for male reproduction	Rat	NOAEL 300 mg/kg/day	28 days
Geraniol	Ingestion	Not classified for male reproduction	Rat	NOAEL 800 mg/kg/day	2 generation
Geraniol	Dermal	Not classified for development	Rat	NOAEL 300 mg/kg/day	premating into lactation
Geraniol	Ingestion	Not classified for development	Rat	NOAEL 300 mg/kg/day	during gestation
Isobornyl Acetate	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	during organogenesis
Terpenes and terpenoids, sweet orange-oil	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	premating & during gestation
Terpenes and terpenoids, sweet orange-oil	Ingestion	Not classified for development	Multiple animal species	NOAEL 591 mg/kg/day	during organogenesis
Benzeneethanol	Dermal	Not classified for development	Rat	NOAEL 70 mg/kg/day	during organogenesis
Benzeneethanol	Ingestion	Not classified for development	Rat	NOAEL Not	during

				available	organogenesis
2-PROPENYL 3-CYCLOHEXYLPROPANOATE	Ingestion	Not classified for female reproduction	Rat	NOAEL 125 mg/kg/day	1 generation
2-PROPENYL 3-CYCLOHEXYLPROPANOATE	Ingestion	Not classified for male reproduction	Rat	NOAEL 125 mg/kg/day	1 generation
2-PROPENYL 3-CYCLOHEXYLPROPANOATE	Ingestion	Not classified for development	Rat	NOAEL 75 mg/kg/day	1 generation
3-Cyclohexene-1-carboxaldehyde, 2,4-dimethyl-	Ingestion	Not classified for female reproduction	Rat	NOAEL 500 mg/kg/day	premating into lactation
3-Cyclohexene-1-carboxaldehyde, 2,4-dimethyl-	Ingestion	Not classified for male reproduction	Rat	NOAEL 500 mg/kg/day	28 days
3-Cyclohexene-1-carboxaldehyde, 2,4-dimethyl-	Ingestion	Not classified for development	Rat	NOAEL 500 mg/kg/day	premating into lactation
CITRAL	Ingestion	Not classified for female reproduction	Rat	NOAEL 250 mg/kg/day	2 generation
CITRAL	Ingestion	Not classified for male reproduction	Rat	NOAEL 250 mg/kg/day	2 generation
CITRAL	Ingestion	Not classified for development	Rabbit	NOAEL 60 mg/kg/day	during gestation
CITRAL	Inhalation	Not classified for development	Rat	NOAEL 0.21 mg/l	during organogenesis
HEXAHYDRO-HEXAMETHYL-CYCLOPENTA-GAMMA-2-BENZOPYRAN	Ingestion	Not classified for female reproduction	Rat	NOAEL 92 mg/kg/day	2 generation
HEXAHYDRO-HEXAMETHYL-CYCLOPENTA-GAMMA-2-BENZOPYRAN	Ingestion	Not classified for male reproduction	Rat	NOAEL 94 mg/kg/day	2 generation
HEXAHYDRO-HEXAMETHYL-CYCLOPENTA-GAMMA-2-BENZOPYRAN	Ingestion	Not classified for development	Rat	NOAEL 150 mg/kg/day	during gestation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
C8-10 Alcohols Ethoxylated Propoxylated	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
Eucalyptus Oil	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Eucalyptus Oil	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Terpineol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not Available	
Methoxyisopropanol	Dermal	central nervous system depression	Not classified	Rabbit	NOAEL 1,800 mg/kg	13 weeks
Methoxyisopropanol	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Linalool	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL not available	
Amyl Cinnamal	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
BENZYL SALICYLATE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
Eugenol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
Geraniol	Inhalation	respiratory irritation	Some positive data exist, but the	similar	NOAEL not	

			data are not sufficient for classification	health hazards	available	
Isobornyl Acetate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
Linalyl Acetate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL not available	
Terpenes and terpenoids, sweet orange-oil	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
Terpenes and terpenoids, sweet orange-oil	Ingestion	nervous system	Not classified		NOAEL Not available	
2-PROPENYL 3-CYCLOHEXYLPROPANOATE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
3-Cyclohexene-1-carboxaldehyde, 2,4-dimethyl-	Dermal	photoirritation	Not classified	Human and animal	Irritation Negative	
3-Cyclohexene-1-carboxaldehyde, 2,4-dimethyl-	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
CITRAL	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL not available	
HEXAHYDRO-HEXAMETHYL-CYCLOPENTA-GAMMA-2-BENZOPYRAN	Dermal	photoirritation	Not classified	Multiple animal species	NOAEL Not Available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Polysorbate 20	Ingestion	heart	Not classified	Rat	NOAEL 2,000 mg/kg/day	2 years
Polysorbate 20	Ingestion	endocrine system	Not classified	Rat	NOAEL 2,000 mg/kg/day	2 years
Polysorbate 20	Ingestion	gastrointestinal tract	Not classified	Rat	NOAEL 2,000 mg/kg/day	2 years
Polysorbate 20	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 2,000 mg/kg/day	2 years
Polysorbate 20	Ingestion	liver	Not classified	Rat	NOAEL 2,000 mg/kg/day	2 years
Polysorbate 20	Ingestion	muscles	Not classified	Rat	NOAEL 2,000 mg/kg/day	2 years
Polysorbate 20	Ingestion	nervous system	Not classified	Rat	NOAEL 2,000 mg/kg/day	2 years
Polysorbate 20	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 2,000 mg/kg/day	2 years
Polysorbate 20	Ingestion	respiratory system	Not classified	Rat	NOAEL 2,000 mg/kg/day	2 years
Cinnamal	Ingestion	liver	Not classified	Rat	NOAEL 500 mg/kg/day	16 weeks
Cinnamal	Ingestion	blood	Not classified	Rat	NOAEL 5,000 mg/kg/day	13 weeks
Cinnamal	Ingestion	kidney and/or	Not classified	Rat	NOAEL 227	12 weeks

		bladder			mg/kg/day	
Eucalyptus Oil	Ingestion	endocrine system	Not classified	Rat	NOAEL 1,000 mg/kg/day	5 weeks
Eucalyptus Oil	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 1,000 mg/kg/day	5 weeks
Eucalyptus Oil	Ingestion	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	5 weeks
Eucalyptus Oil	Ingestion	kidney and/or bladder	Not classified	Rat	LOAEL 100 mg/kg/day	5 weeks
Methoxyisopropanol	Dermal	kidney and/or bladder	Not classified	Rabbit	NOAEL 1,800 mg/kg/day	13 weeks
Methoxyisopropanol	Dermal	hematopoietic system	Not classified	Rabbit	NOAEL 1,000 mg/kg/day	3 weeks
Methoxyisopropanol	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 3.7 mg/l	13 weeks
Methoxyisopropanol	Inhalation	liver	Not classified	Rat	NOAEL 11 mg/l	13 weeks
Methoxyisopropanol	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 2.2 mg/l	10 days
Methoxyisopropanol	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 920 mg/kg/day	13 weeks
Methoxyisopropanol	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 920 mg/kg/day	13 weeks
Linalool	Dermal	skin	Not classified	Rat	NOAEL 1,000 mg/kg/day	91 days
Linalool	Dermal	heart	Not classified	Rat	NOAEL 1,000 mg/kg/day	91 days
Linalool	Dermal	endocrine system	Not classified	Rat	NOAEL 1,000 mg/kg/day	91 days
Linalool	Dermal	hematopoietic system	Not classified	Rat	NOAEL 1,000 mg/kg/day	91 days
Linalool	Dermal	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	91 days
Linalool	Dermal	immune system	Not classified	Rat	NOAEL 1,000 mg/kg/day	91 days
Linalool	Dermal	muscles	Not classified	Rat	NOAEL 1,000 mg/kg/day	91 days
Linalool	Dermal	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	91 days
Linalool	Dermal	kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	91 days
Linalool	Dermal	respiratory system	Not classified	Rat	NOAEL 1,000 mg/kg/day	91 days
Linalool	Ingestion	kidney and/or bladder	Not classified	Rat	LOAEL 53 mg/kg/day	95 days
Linalool	Ingestion	endocrine system	Not classified	Rat	NOAEL 498 mg/kg/day	95 days
Linalool	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 498 mg/kg/day	95 days
Linalool	Ingestion	liver	Not classified	Rat	NOAEL 498 mg/kg/day	95 days

Linalool	Ingestion	nervous system	Not classified	Rat	NOAEL 498 mg/kg/day	95 days
Linalool	Ingestion	eyes	Not classified	Rat	NOAEL 498 mg/kg/day	95 days
Linalool	Ingestion	immune system	Not classified	Mouse	NOAEL 375 mg/kg/day	5 days
Amyl Cinnamal	Ingestion	liver	Not classified	Rat	NOAEL 287 mg/kg/day	14 weeks
Amyl Cinnamal	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 287 mg/kg/day	14 weeks
Amyl Cinnamal	Ingestion	heart	Not classified	Rat	NOAEL 287 mg/kg/day	14 weeks
Amyl Cinnamal	Ingestion	endocrine system	Not classified	Rat	NOAEL 287 mg/kg/day	14 weeks
Amyl Cinnamal	Ingestion	gastrointestinal tract	Not classified	Rat	NOAEL 287 mg/kg/day	14 weeks
Amyl Cinnamal	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 287 mg/kg/day	14 weeks
Amyl Cinnamal	Ingestion	immune system	Not classified	Rat	NOAEL 287 mg/kg/day	14 weeks
Amyl Cinnamal	Ingestion	muscles	Not classified	Rat	NOAEL 287 mg/kg/day	14 weeks
Amyl Cinnamal	Ingestion	nervous system	Not classified	Rat	NOAEL 287 mg/kg/day	14 weeks
Amyl Cinnamal	Ingestion	respiratory system	Not classified	Rat	NOAEL 287 mg/kg/day	14 weeks
Amyl Cinnamal	Ingestion	vascular system	Not classified	Rat	NOAEL 287 mg/kg/day	14 weeks
BENZYL SALICYLATE	Ingestion	heart	Not classified	Rat	NOAEL 357 mg/kg/day	90 days
BENZYL SALICYLATE	Ingestion	skin	Not classified	Rat	NOAEL 357 mg/kg/day	90 days
BENZYL SALICYLATE	Ingestion	endocrine system	Not classified	Rat	NOAEL 357 mg/kg/day	90 days
BENZYL SALICYLATE	Ingestion	gastrointestinal tract	Not classified	Rat	NOAEL 357 mg/kg/day	90 days
BENZYL SALICYLATE	Ingestion	bone, teeth, nails, and/or hair	Not classified	Rat	NOAEL 357 mg/kg/day	90 days
BENZYL SALICYLATE	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 357 mg/kg/day	90 days
BENZYL SALICYLATE	Ingestion	liver	Not classified	Rat	NOAEL 357 mg/kg/day	90 days
BENZYL SALICYLATE	Ingestion	immune system	Not classified	Rat	NOAEL 357 mg/kg/day	90 days
BENZYL SALICYLATE	Ingestion	muscles	Not classified	Rat	NOAEL 357 mg/kg/day	90 days
BENZYL SALICYLATE	Ingestion	nervous system	Not classified	Rat	NOAEL 357 mg/kg/day	90 days
BENZYL SALICYLATE	Ingestion	eyes	Not classified	Rat	NOAEL 357 mg/kg/day	90 days
BENZYL SALICYLATE	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 357 mg/kg/day	90 days
BENZYL SALICYLATE	Ingestion	respiratory system	Not classified	Rat	NOAEL 357 mg/kg/day	90 days
BENZYL SALICYLATE	Ingestion	vascular system	Not classified	Rat	NOAEL 357 mg/kg/day	90 days
Eugenol	Ingestion	liver	Not classified	Rat	NOAEL 900 mg/kg/day	4 days
Eugenol	Ingestion	endocrine system	Not classified	Rat	NOAEL 1,400 mg/kg/day	34 days
Eugenol	Ingestion	gastrointestinal tract	Not classified	Rat	NOAEL 1,400 mg/kg/day	34 days
Eugenol	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 500 mg/kg/day	19 weeks
Geraniol	Ingestion	endocrine system	Not classified	Rat	NOAEL	28 days

					1,000 mg/kg/day	
Geraniol	Ingestion	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Geraniol	Ingestion	heart	Not classified	Rat	NOAEL 550 mg/kg/day	112 days
Geraniol	Ingestion	bone, teeth, nails, and/or hair	Not classified	Rat	NOAEL 550 mg/kg/day	112 days
Geraniol	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 550 mg/kg/day	112 days
Geraniol	Ingestion	muscles	Not classified	Rat	NOAEL 550 mg/kg/day	112 days
Geraniol	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 550 mg/kg/day	112 days
Isobornyl Acetate	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 90 mg/kg/day	13 weeks
Isobornyl Acetate	Ingestion	gastrointestinal tract	Not classified	Rat	NOAEL 270 mg/kg/day	13 weeks
Isobornyl Acetate	Ingestion	liver	Not classified	Rat	NOAEL 270 mg/kg/day	13 weeks
Isobornyl Acetate	Ingestion	heart	Not classified	Rat	NOAEL 270 mg/kg/day	13 weeks
Isobornyl Acetate	Ingestion	endocrine system	Not classified	Rat	NOAEL 270 mg/kg/day	13 weeks
Isobornyl Acetate	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 270 mg/kg/day	13 weeks
Isobornyl Acetate	Ingestion	immune system	Not classified	Rat	NOAEL 270 mg/kg/day	13 weeks
Isobornyl Acetate	Ingestion	muscles	Not classified	Rat	NOAEL 270 mg/kg/day	13 weeks
Isobornyl Acetate	Ingestion	nervous system	Not classified	Rat	NOAEL 270 mg/kg/day	13 weeks
Isobornyl Acetate	Ingestion	respiratory system	Not classified	Rat	NOAEL 270 mg/kg/day	13 weeks
Terpenes and terpenoids, sweet orange-oil	Ingestion	kidney and/or bladder	Not classified	Rat	LOAEL 75 mg/kg/day	103 weeks
Terpenes and terpenoids, sweet orange-oil	Ingestion	liver	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
Terpenes and terpenoids, sweet orange-oil	Ingestion	heart	Not classified	Rat	NOAEL 600 mg/kg/day	103 weeks
Terpenes and terpenoids, sweet orange-oil	Ingestion	endocrine system	Not classified	Rat	NOAEL 600 mg/kg/day	103 weeks
Terpenes and terpenoids, sweet orange-oil	Ingestion	bone, teeth, nails, and/or hair	Not classified	Rat	NOAEL 600 mg/kg/day	103 weeks
Terpenes and terpenoids, sweet orange-oil	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 600 mg/kg/day	103 weeks
Terpenes and terpenoids, sweet orange-oil	Ingestion	immune system	Not classified	Rat	NOAEL 600 mg/kg/day	103 weeks
Terpenes and terpenoids, sweet orange-oil	Ingestion	muscles	Not classified	Rat	NOAEL 600 mg/kg/day	103 weeks
Terpenes and terpenoids, sweet orange-oil	Ingestion	nervous system	Not classified	Rat	NOAEL 600 mg/kg/day	103 weeks
Terpenes and terpenoids, sweet orange-oil	Ingestion	respiratory system	Not classified	Rat	NOAEL 600 mg/kg/day	103 weeks
2-PROPENYL 3-CYCLOHEXYLPROPANOATE	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 214 mg/kg/day	52 weeks
3-Cyclohexene-1-carboxaldehyde, 2,4-dimethyl-	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 1.3 mg/l	9 days
3-Cyclohexene-1-carboxaldehyde, 2,4-dimethyl-	Inhalation	liver	Not classified	Rat	NOAEL 1.3 mg/l	9 days
3-Cyclohexene-1-carboxaldehyde, 2,4-	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 1.3 mg/l	9 days

dimethyl-						
3-Cyclohexene-1-carboxaldehyde, 2,4-dimethyl-	Inhalation	respiratory system	Not classified	Rat	NOAEL 1.3 mg/l	9 days
3-Cyclohexene-1-carboxaldehyde, 2,4-dimethyl-	Inhalation	eyes	Not classified	Rat	NOAEL 0.7 mg/l	9 days
3-Cyclohexene-1-carboxaldehyde, 2,4-dimethyl-	Ingestion	gastrointestinal tract	Not classified	Rat	NOAEL 750 mg/kg/day	28 days
3-Cyclohexene-1-carboxaldehyde, 2,4-dimethyl-	Ingestion	liver	Not classified	Rat	NOAEL 750 mg/kg/day	28 days
3-Cyclohexene-1-carboxaldehyde, 2,4-dimethyl-	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 750 mg/kg/day	28 days
3-Cyclohexene-1-carboxaldehyde, 2,4-dimethyl-	Ingestion	endocrine system	Not classified	Rat	NOAEL 750 mg/kg/day	28 days
3-Cyclohexene-1-carboxaldehyde, 2,4-dimethyl-	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 750 mg/kg/day	28 days
3-Cyclohexene-1-carboxaldehyde, 2,4-dimethyl-	Ingestion	nervous system	Not classified	Rat	NOAEL 750 mg/kg/day	28 days
3-Cyclohexene-1-carboxaldehyde, 2,4-dimethyl-	Ingestion	eyes	Not classified	Rat	NOAEL 750 mg/kg/day	28 days
ACETIC ACID, (3-METHYLBUTOXY)-, 2-PROPENYL ESTER	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 100 mg/kg/day	28 days
CITRAL	Ingestion	gastrointestinal tract	Not classified	Rat	NOAEL 1,330 mg/kg/day	90 days
CITRAL	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 1,330 mg/kg/day	90 days
CITRAL	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 1,330 mg/kg/day	90 days
CITRAL	Ingestion	heart	Not classified	Rat	NOAEL 1,330 mg/kg/day	90 days
CITRAL	Ingestion	skin	Not classified	Rat	NOAEL 1,330 mg/kg/day	90 days
CITRAL	Ingestion	endocrine system	Not classified	Rat	NOAEL 1,330 mg/kg/day	90 days
CITRAL	Ingestion	bone, teeth, nails, and/or hair	Not classified	Rat	NOAEL 1,330 mg/kg/day	90 days
CITRAL	Ingestion	liver	Not classified	Rat	NOAEL 1,330 mg/kg/day	90 days
CITRAL	Ingestion	immune system	Not classified	Rat	NOAEL 1,330 mg/kg/day	90 days
CITRAL	Ingestion	nervous system	Not classified	Rat	NOAEL 1,330 mg/kg/day	90 days
CITRAL	Ingestion	respiratory system	Not classified	Rat	NOAEL 1,330 mg/kg/day	90 days
CITRAL	Ingestion	vascular system	Not classified	Rat	NOAEL 1,330 mg/kg/day	90 days

HEXAHYDRO-HEXAMETHYL-CYCLOPENTA-GAMMA-2-BENZOPYRAN	Ingestion	heart	Not classified	Rat	NOAEL 150 mg/kg/day	90 days
HEXAHYDRO-HEXAMETHYL-CYCLOPENTA-GAMMA-2-BENZOPYRAN	Ingestion	skin	Not classified	Rat	NOAEL 150 mg/kg/day	90 days
HEXAHYDRO-HEXAMETHYL-CYCLOPENTA-GAMMA-2-BENZOPYRAN	Ingestion	endocrine system	Not classified	Rat	NOAEL 150 mg/kg/day	90 days
HEXAHYDRO-HEXAMETHYL-CYCLOPENTA-GAMMA-2-BENZOPYRAN	Ingestion	gastrointestinal tract	Not classified	Rat	NOAEL 150 mg/kg/day	90 days
HEXAHYDRO-HEXAMETHYL-CYCLOPENTA-GAMMA-2-BENZOPYRAN	Ingestion	bone, teeth, nails, and/or hair	Not classified	Rat	NOAEL 150 mg/kg/day	90 days
HEXAHYDRO-HEXAMETHYL-CYCLOPENTA-GAMMA-2-BENZOPYRAN	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 150 mg/kg/day	90 days
HEXAHYDRO-HEXAMETHYL-CYCLOPENTA-GAMMA-2-BENZOPYRAN	Ingestion	liver	Not classified	Rat	NOAEL 150 mg/kg/day	90 days
HEXAHYDRO-HEXAMETHYL-CYCLOPENTA-GAMMA-2-BENZOPYRAN	Ingestion	immune system	Not classified	Rat	NOAEL 150 mg/kg/day	90 days
HEXAHYDRO-HEXAMETHYL-CYCLOPENTA-GAMMA-2-BENZOPYRAN	Ingestion	muscles	Not classified	Rat	NOAEL 150 mg/kg/day	90 days
HEXAHYDRO-HEXAMETHYL-CYCLOPENTA-GAMMA-2-BENZOPYRAN	Ingestion	nervous system	Not classified	Rat	NOAEL 150 mg/kg/day	90 days
HEXAHYDRO-HEXAMETHYL-CYCLOPENTA-GAMMA-2-BENZOPYRAN	Ingestion	eyes	Not classified	Rat	NOAEL 150 mg/kg/day	90 days
HEXAHYDRO-HEXAMETHYL-CYCLOPENTA-GAMMA-2-BENZOPYRAN	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 150 mg/kg/day	90 days
HEXAHYDRO-HEXAMETHYL-CYCLOPENTA-GAMMA-2-BENZOPYRAN	Ingestion	respiratory system	Not classified	Rat	NOAEL 150 mg/kg/day	90 days
HEXAHYDRO-HEXAMETHYL-CYCLOPENTA-	Ingestion	vascular system	Not classified	Rat	NOAEL 150 mg/kg/day	90 days

GAMMA-2-BENZOPYRAN						

Aspiration Hazard

Name	Value
Eucalyptus Oil	Aspiration hazard
Terpenes and terpenoids, sweet orange-oil	Aspiration hazard

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

SECTION 14: Transport Information

For Transport Information, please visit http://3M.com/Transportinfo or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations

EPCRA 311/312 Hazard Classifications:

Physical Hazards
Not Applicable.

Health Hazards
Acute toxicity
Reproductive toxicity
Respiratory or Skin Sensitization
Serious eye damage or eye irritation
Skin Corrosion or Irritation

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

Ingredient	C.A.S. No	% by Wt
HEXAHYDRO-HEXAMETHYL-CYCLOPENTA-GAMMA-2-BENZOPYRAN	1222-05-5	< 0.3

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the new substance notification requirements of CEPA.

The components of this material are in compliance with the China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of the Korean Toxic Chemical Control Law. Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of Japan Chemical Substance Control Law. Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

This product complies with the New Zealand Hazardous Substances and New Organisms Act (1996).

15.4. International Regulations

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification
Health: 3 **Flammability:** 1 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

Document Group:	06-8476-1	**Version Number:**	24.00
Issue Date:	07/27/26	**Supersedes Date:**	03/23/26

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