

# SAFETY DATA SHEET

## 1. Identification

<b>Product identifier</b>	<b>APRITONE™</b>	
<b>Other means of identification</b>		
<b>BRI Product Code</b>	410	
<b>FEMA number</b>	3829	
<b>Synonyms</b>	Contains 99+% FEMA/GRAS # 3829 * 2-(3,7-Dimethyl-2,6-octadienyl)cyclopentanone * 2-(3,7-dimethylocta-2,6-dienyl)cyclopentan-1-one * Cyclopentanone, 2-(3,7-dimethyl-2,6-octadienyl)- * Decenyl Cyclopentanone * Geranyl Cyclopentanone * 2-(3,7-dimethyl-2,6-octadien-1-yl)-Cyclopentanone	
<b>Recommended use</b>	flavors and fragrances For Manufacturing Use Only	
<b>Recommended restrictions</b>	Not for use in Tobacco or Nicotine delivery device applications and/or products.	
<b>Manufacturer/Importer/Supplier/Distributor information</b>		
<b>Manufacturer</b>		
<b>Company name</b>	Bedoukian US	
<b>Address</b>	6 Commerce Drive Danbury, CT 06810 United States	
<b>Telephone</b>	1-203-830-4000	
<b>Website</b>	www.bedoukian.com	
<b>E-mail</b>	customerservice@bedoukian.com	
<b>Contact person</b>	Joseph Bania	
<b>Emergency phone number</b>	Chemtrec (North America)	1-800-424-9300
	Chemtrec (International)	1-703-527-3887

## 2. Hazard(s) identification

<b>Physical hazards</b>	Not classified.	
<b>Health hazards</b>	Skin corrosion/irritation	Category 2
<b>Environmental hazards</b>	Hazardous to the aquatic environment, acute hazard	Category 1
	Hazardous to the aquatic environment, long-term hazard	Category 1
<b>OSHA defined hazards</b>	Not classified.	

### Label elements



<b>Signal word</b>	Warning
<b>Hazard statement</b>	Causes skin irritation. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.
<b>Precautionary statement</b>	
<b>Prevention</b>	Wash thoroughly after handling. Avoid release to the environment. Wear protective gloves.
<b>Response</b>	If on skin: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse. Collect spillage.
<b>Storage</b>	Store away from incompatible materials.
<b>Disposal</b>	Dispose of contents/container in accordance with relevant area regulations.
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.
<b>Supplemental information</b>	Contains DI-.alpha.-tocopherol. May produce an allergic reaction.

### 3. Composition/information on ingredients

#### Substances

Chemical name	Common name and synonyms	CAS number	%
2-(3,7-Dimethylocta-2,6-dienyl)cyclopentan-1-one	2-(3,7-Dimethyl-2,6-octadienyl)cyclopentan-1-one 2-(3,7-dimethylocta-2,6-dienyl)cyclopentan-1-one Cyclopentanone, 2-(3,7-dimethyl-2,6-octadienyl)- Decenyl Cyclopentanone Geranyl Cyclopentanone 2-(3,7-dimethyl-2,6-octadien-1-yl)-Cyclopentanone	68133-79-9	99.65
DI- $\alpha$ -tocopherol		10191-41-0	0.1
beta-Damascone	2-Buten-1-one, 1-(2,6,6-trimethyl-1-cyclohexen-1-yl)-, (2E)-	23726-91-2	0.05
Other components below reportable levels			0.2

\*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

### 4. First-aid measures

<b>Inhalation</b>	Move to fresh air. Call a physician if symptoms develop or persist.
<b>Skin contact</b>	Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
<b>Eye contact</b>	Rinse with water. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. Get medical attention if symptoms occur.
<b>Most important symptoms/effects, acute and delayed</b>	Skin irritation. May cause redness and pain.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
<b>General information</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ).
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire fighting equipment/instructions</b>	Move containers from fire area if you can do so without risk.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted.

### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
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**Methods and materials for containment and cleaning up**

This product is miscible in water. Prevent product from entering drains.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

**Environmental precautions**

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

**7. Handling and storage**

**Precautions for safe handling**

Avoid contact with eyes, skin, and clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

**Conditions for safe storage, including any incompatibilities**

Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Recommended Packaging: Glass, Plastic, Aluminum or Phenolic Lined Steel. Store tightly sealed under inert gas in a cool, well-ventilated area.

**8. Exposure controls/personal protection**

**Occupational exposure limits**

This substance has no PEL, TLV, or other recommended exposure limit.

**Biological limit values**

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

**Appropriate engineering controls**

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash fountain and emergency showers are recommended.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**

Face shield is recommended. Wear safety glasses with side shields (or goggles).

**Skin protection**

**Hand protection**

Wear appropriate chemical resistant gloves. Select suitable chemical resistant protective gloves (EN 374) with a protective index 6 (>480min permeation time).

**Other**

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

**Respiratory protection**

In case of insufficient ventilation, wear suitable respiratory equipment.

**Thermal hazards**

Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations**

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

**9. Physical and chemical properties**

**Appearance**

**Physical state**

Liquid.

**Color**

Pale yellow

**Odor**

peach-apricot, with jasmine undertones.

**Odor threshold**

Not available.

**pH**

Not available.

**Melting point/freezing point**

Not available.

**Initial boiling point and boiling range**

569.3 °F (298.5 °C) OPPTS 830.7220 at ca. 1 atm

**Flash point**

282 °F (139 °C) Closed Cup

**Evaporation rate**

Not available.

**Flammability (solid, gas)**

Not applicable.

**Upper/lower flammability or explosive limits**

**Flammability limit - lower (%)**

Not available.

<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	786.5 Pa OECD 104 at 21.1 °C
<b>Vapor density</b>	7.6 Relative to air; air = 1
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	2.27 mg/l OPPTS 830.7840 at 20°C
<b>Partition coefficient (n-octanol/water)</b>	5.57 - 5.66 OECD 117 Result for similar material 2-(3,7-dimethyl-2,6-nonadien-1-yl)-Cyclopentanone.
<b>Auto-ignition temperature</b>	502 °F (261 °C) ASTM E659
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Other information</b>	
<b>Density</b>	0.911 - 0.916 g/cm3
<b>Explosive properties</b>	Not explosive.
<b>Flammability class</b>	Combustible IIIB estimated
<b>Molecular formula</b>	C15H24O
<b>Molecular weight</b>	220.35
<b>Oxidizing properties</b>	Not oxidizing.
<b>Specific gravity</b>	0.911 - 0.916 at 25°C

## 10. Stability and reactivity

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	Contact with incompatible materials.
<b>Incompatible materials</b>	Strong oxidizing agents.
<b>Hazardous decomposition products</b>	No hazardous decomposition products are known.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
<b>Skin contact</b>	Causes skin irritation. May cause an allergic skin reaction.
<b>Eye contact</b>	Direct contact with eyes may cause temporary irritation.
<b>Ingestion</b>	Expected to be a low ingestion hazard.

**Symptoms related to the physical, chemical and toxicological characteristics** Skin irritation. May cause redness and pain.

### Information on toxicological effects

**Acute toxicity** Not known.

Product	Species	Test Results
APRITONE™		
<u>Acute</u>		
<b>Dermal</b>		
<i>Liquid</i>		
LD50	Rabbit	> 5000 mg/kg Result for similar material. 2-(3,7-dimethyl-2,6-nonadien-1-yl)-Cyclopentanone.

Product	Species	Test Results
<b>Oral</b> <i>Liquid</i> LD50	Rat	> 5000 mg/kg
Components	Species	Test Results
2-(3,7-Dimethylocta-2,6-dienyl)cyclopentan-1-one (CAS 68133-79-9)		
<b>Acute</b>		
<b>Dermal</b>		
<i>Liquid</i> LD50	Rabbit	> 5000 mg/kg Result for similar material. 2-(3,7-dimethyl-2,6-nonadien-1-yl)-Cyclopentanone.
<b>Oral</b>		
<i>Liquid</i> LD50	Rat	> 5000 mg/kg
beta-Damascone (CAS 23726-91-2)		
<b>Acute</b>		
<b>Dermal</b>		
<i>Liquid</i> LD50	Rabbit	> 2000 mg/kg Result for beta-Damascone 50% in Triethyl citrate.
<b>Oral</b>		
<i>Liquid</i> LD50	Rat	2920 mg/kg

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

**Skin corrosion/irritation** Causes skin irritation.  
**Serious eye damage/eye irritation** Direct contact with eyes may cause temporary irritation.

**Irritation Corrosion - Eye**  
APRITONE™

2-(3,7-Dimethylocta-2,6-dienyl)cyclopentan-1-one

100 % USEPA OPPTS 870.2400, Result for similar material 2-(3,7-dimethyl-2,6-nonadien-1-yl)-Cyclopentanone.  
 Result: No observed effects.  
 Species: Rabbit  
 Organ: Eye  
 Observation Period: 72 hours  
 Notes: BRI study

100 % USEPA OPPTS 870.2400, Result for similar material 2-(3,7-dimethyl-2,6-nonadien-1-yl)-Cyclopentanone.  
 Result: No observed effects.  
 Species: Rabbit  
 Organ: Eye  
 Observation Period: 72 hours  
 Notes: BRI study

**Respiratory or skin sensitization**

**Respiratory sensitization** Not a respiratory sensitizer.

**Skin sensitization** This product is not expected to cause skin sensitization.

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

**Germ cell mutagenicity: Ames test**  
APRITONE™

OECD 471, Strain WP2uvrA with and without metabolic activation. Vehicle DMSO.  
 Result: Not mutagenic.  
 Species: Escherichia coli  
 OECD 471, Strains TA 98, TA 100, TA 1535, and TA 1537 with and without metabolic activation. Vehicle DMSO.  
 Result: Not mutagenic.  
 Species: Salmonella typhimurium

**Germ cell mutagenicity: Ames test**

beta-Damascone

< 250 µg/plate, Strains TA 98 and TA 1537 with and without metabolic activation. Vehicle DMSO. Result for similar material alpha-Damascone.  
Result: Not mutagenic.

Species: Salmonella typhimurium

Notes: RIFM

< 500 µg/plate, Strains TA 100 and TA 1535 with and without metabolic activation. Vehicle DMSO. Result for similar material alpha-Damascone.  
Result: Not mutagenic.

Species: Salmonella typhimurium

Notes: RIFM

2-(3,7-Dimethylocta-2,6-dienyl)cyclopentan-1-one

OECD 471, Strain WP2uvrA with and without metabolic activation. Vehicle DMSO.  
Result: Not mutagenic.

Species: Escherichia coli

OECD 471, Strains TA 98, TA 100, TA 1535, and TA 1537 with and without metabolic activation. Vehicle DMSO.  
Result: Not mutagenic.

Species: Salmonella typhimurium

**Carcinogenicity**

Not classifiable as to carcinogenicity to humans.

**IARC Monographs. Overall Evaluation of Carcinogenicity**

Not listed.

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

Not regulated.

**US. National Toxicology Program (NTP) Report on Carcinogens**

Not listed.

**Reproductive toxicity**

This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity - single exposure**

Not classified.

**Specific target organ toxicity - repeated exposure**

Not classified.

**Aspiration hazard**

Not an aspiration hazard.

**Further information**

May cause allergic respiratory and skin reactions.

**12. Ecological information****Ecotoxicity**

Very toxic to aquatic life with long lasting effects.

Product		Species	Test Results
APRITONE™			
<b>Aquatic</b>			
<i>Acute</i>			
Algae	EC50	Algae	2.94 mg/l, 72 hr OECD 201
Crustacea	EC50	Daphnia	0.677 mg/l, 48 hr OECD 202
<b>Components</b>		<b>Species</b>	<b>Test Results</b>
2-(3,7-Dimethylocta-2,6-dienyl)cyclopentan-1-one (CAS 68133-79-9)			
<b>Aquatic</b>			
<i>Acute</i>			
Algae	EC50	Algae	2.94 mg/l, 72 hr OECD 201
Crustacea	EC50	Daphnia	0.677 mg/l, 48 hr OECD 202

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

**Persistence and degradability**

The product is readily biodegradable.

**Biodegradability****Percent degradation (Aerobic biodegradation-ready)**

APRITONE™

OECD 301B, 10-day criteria fulfilled.

Result: Readily biodegradable.

Species: activated sludge (adaptation not specified)

## Biodegradability

### Percent degradation (Aerobic biodegradation-ready)

2-(3,7-Dimethylocta-2,6-dienyl)cyclopentan-1-one

OECD 301B, 10-day criteria fulfilled.

Result: Readily biodegradable.

Species: activated sludge (adaptation not specified)

## Bioaccumulative potential

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

APRITONE™

2-(3,7-Dimethylocta-2,6-dienyl)cyclopentan-1-one

beta-Damascone

5.57 - 5.66 OECD 117, Result for similar material  
2-(3,7-dimethyl-2,6-nonadien-1-yl)-Cyclopentanone.

5.57 - 5.66 OECD 117, Result for similar material  
2-(3,7-dimethyl-2,6-nonadien-1-yl)-Cyclopentanone.

4.424, US EPA. 2014. Estimation Programs Interface Suite™  
for Microsoft® Windows, v 4.11. US EPA, Washington, DC,  
USA.

## Mobility in soil

No data available.

## Other adverse effects

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## 13. Disposal considerations

### Disposal instructions

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

### Local disposal regulations

Dispose in accordance with all applicable regulations.

### Hazardous waste code

The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

### Waste from residues / unused products

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

### Contaminated packaging

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

## 14. Transport information

### DOT

Not regulated as dangerous goods.

### IATA

#### UN number

UN3082

#### UN proper shipping name

Environmentally hazardous substance, liquid, n.o.s.  
(2-(3,7-dimethyl-2,6-octadienyl)-Cyclopentanone)

#### Transport hazard class(es)

##### Class

9

##### Subsidiary risk

-

#### Packing group

III

#### Environmental hazards

No.

#### ERG Code

9L

#### Special precautions for user

Read safety instructions, SDS and emergency procedures before handling.

#### Other information

##### Passenger and cargo aircraft

Allowed with restrictions.

##### Cargo aircraft only

Allowed with restrictions.

### IMDG

#### UN number

UN3082

#### UN proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(2-(3,7-dimethyl-2,6-octadienyl)-Cyclopentanone)

#### Transport hazard class(es)

##### Class

9

##### Subsidiary risk

-

#### Packing group

III

#### Environmental hazards

##### Marine pollutant

No.

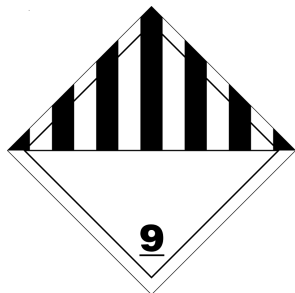
EmS

F-A, S-F

**Special precautions for user**  
**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Read safety instructions, SDS and emergency procedures before handling.  
Not established.

IATA; IMDG



## 15. Regulatory information

### US federal regulations

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

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

Not regulated.

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

Not listed.

#### SARA 304 Emergency release notification

Not regulated.

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

Not regulated.

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

#### Hazard categories

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

#### SARA 302 Extremely hazardous substance

Not listed.

#### SARA 311/312 Hazardous chemical

Yes

#### SARA 313 (TRI reporting)

Not regulated.

### Other federal regulations

#### Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

#### Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

#### Safe Drinking Water Act (SDWA)

Not regulated.

### US state regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

### International Inventories

#### Country(s) or region

#### Inventory name

#### On inventory (yes/no)\*

Australia

Australian Inventory of Chemical Substances (AICS)

Yes

Canada

Domestic Substances List (DSL)

Yes

Canada

Non-Domestic Substances List (NDSL)

No

China

Inventory of Existing Chemical Substances in China (IECSC)

Yes



Country(s) or region	Inventory name	On inventory (yes/no)*
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Toxic Chemical Substances (TCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

**IFRA restriction** There is an IFRA guideline regarding this product. Please visit [www.ifraorg.org](http://www.ifraorg.org) for the full text of the guideline, or contact Bedoukian Research, Inc. for more information.

## 16. Other information, including date of preparation or last revision

**Issue date** 21-March-2021

**Version #** 01

**Disclaimer** Bedoukian US cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

**Revision information** Hazard(s) identification: Disposal  
Physical & Chemical Properties: Multiple Properties  
Toxicological Information: Toxicological Property Data