

## SAFETY DATA SHEET

### 500651 CITRAL N

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#### 1. IDENTIFICATION

<b>Product Description:</b>	CITRAL N	
<b>CAS #</b>	5392-40-5	
<b>FEMA Number</b>	2303	
<b>Other means of identification</b>		
<b>Vigon Item #</b>	500651	
<b>Recommended use</b>	Concentrated aromatic and flavor ingredient which may be used in flavor and fragrance compounds according to legal and IFRA or FEMA GRAS/FDA guidelines.	
<b>Recommended restrictions</b>	For Manufacturing Use Only	
<b>Company</b>	<u>24 Hour Emergency Response Information</u>	
Vigon International, LLC	INFOTRAC (ACCT# 78928);	
127 Airport Road	1-800-535-5053 WITHIN THE U.S.A.	
E. Stroudsburg, PA 18301	1-352-323-3500 OUTSIDE THE U.S.A.	
For information call: 570-476-6300		
Web Site: <a href="http://www.vigon.com">www.vigon.com</a>		
<b>Manufacturer/Importer/Supplier/Distributor information</b>		
<b>Manufacturer</b>		
<b>Company name</b>	Vigon International, LLC	
<b>Address</b>	127 Airport Road	
	E. Stroudsburg, PA 18301	
	United States	
<b>Telephone</b>	For information call:	570-476-6300
<b>Website</b>	<a href="http://www.vigon.com">www.vigon.com</a>	
<b>E-mail</b>	<a href="mailto:regulatory@vigong.com">regulatory@vigong.com</a>	
<b>Emergency phone number</b>	INFOTRAC 1-800-535-5053 1-352-323-3500	(ACCT# 78928); WITHIN THE U.S.A. OUTSIDE THE U.S.A.

#### 2. HAZARD(S) IDENTIFICATION

<b>Physical hazards</b>	Not classified.	
<b>Health hazards</b>	Acute toxicity, dermal	Category 5
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Sensitization, skin	Category 1
<b>Environmental hazards</b>	Hazardous to the aquatic environment, acute hazard	Category 2
<b>Label elements</b>		

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<b>Signal word</b>	Warning
<b>Hazard statement</b>	May be harmful in contact with skin. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Toxic to aquatic life.
<b>Precautionary statement</b>	
<b>Prevention</b>	Avoid breathing mist/vapors. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear eye protection/face protection. Wear protective gloves.
<b>Response</b>	IF ON SKIN: Call a POISON CENTER or doctor/physician if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.
<b>Storage</b>	Store away from incompatible materials.
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Hazard(s) not otherwise classified (HNOC)</b>	After prolonged contact with highly porous materials, this product may spontaneously combust.
<b>Supplemental information</b>	100% of the substance consists of component(s) of unknown acute inhalation toxicity.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Substances

Chemical name	Common name and synonyms	CAS number	%
CITRAL	2,6- OCTADIENAL, 3,7-DIMETHYL- 2,6- dimethyl octadien-2,6-al-8 3,7-DIMETHYL-2,6-OCTADIENAL 3,7- dimethylocta-2,6-dienal	5392-40-5	>= 80

### 4. FIRST-AID MEASURES

<b>Inhalation</b>	If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. For breathing difficulties, oxygen may be necessary. Call a physician if symptoms develop or persist.
<b>Skin contact</b>	Take off immediately all contaminated clothing. Get medical attention if irritation develops and persists. Wash skin thoroughly with soap and water for several minutes.
<b>Eye contact</b>	Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists. Promptly wash eyes with plenty of water while lifting the eye lids.
<b>Ingestion</b>	Call a physician or poison control center immediately. If swallowed, rinse mouth with water (only if the person is conscious). Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs.
<b>Most important symptoms/effects, acute and delayed</b>	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.
<b>Indication of immediate medical attention and special treatment needed</b>	Not available.
<b>General information</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.



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## 5. FIRE-FIGHTING MEASURES

### **Suitable extinguishing media**

Water spray, fog, CO<sub>2</sub>, dry chemical, or alcohol resistant foam.

### **Unsuitable extinguishing media**

Do not use a solid water stream as it may scatter and spread fire.

### **Specific hazards arising from the chemical**

Fire may produce irritating, corrosive and/or toxic gases. Porous material such as rags, paper, insulation, or organic clay may spontaneously combust when wetted with this material.

### **Special protective equipment and precautions for firefighters**

Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection. Wear self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode when fighting fires.

### **Fire fighting equipment/instructions**

In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Water runoff can cause environmental damage. Ventilate closed spaces before entering them. Keep run-off water out of sewers and water sources. Dike for water control.

### **Specific methods**

Use water spray to cool unopened containers.

### **General fire hazards**

Static charges generated by emptying package in or near flammable vapor may cause flash fire.

## 6. ACCIDENTAL RELEASE MEASURES

### **Personal precautions, protective equipment and emergency procedures**

Keep unnecessary personnel away. Eliminate all sources of ignition. Avoid contact with skin or inhalation of spillage, dust or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them.

### **Methods and materials for containment and cleaning up**

Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb with inert absorbent such as dry clay, sand or diatomaceous earth, commercial sorbents, or recover using pumps.

**Large Spills:** Dike the spilled material, where this is possible. Collect and dispose of spillage as indicated in section 13 of the SDS.

Absorb in vermiculite, dry sand or earth and place into containers. Prevent product from entering drains.

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

Never return spills in original containers for re-use. This material and its container must be disposed of as hazardous waste. Stop the flow of material, if this is without risk. Cover with plastic sheet to prevent spreading.

### **Environmental precautions**

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



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## 7. HANDLING AND STORAGE

### Precautions for safe handling

Do not handle or store near an open flame, heat or other sources of ignition. Porous material such as rags, paper, insulation, or organic clay may spontaneously combust when wetted with this material. May auto-oxidize with sufficient heat generation to ignite if spread (as a thin film) or absorbed on porous or fibrous material. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Contaminated rags and cloths must be put in fireproof containers for disposal. Avoid breathing vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Wash thoroughly after handling.

### Conditions for safe storage, including any incompatibilities

Do not store in direct sunlight. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Keep under a nitrogen blanket.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Occupational exposure limits

#### US ACGIH Threshold Limit Values

Material	Type	Value	Form
CITRAL (CAS 5392-40-5)	TWA	5 ppm	Inhalable fraction and vapor.

**Biological limit values** No biological exposure limits noted for the ingredient(s).

### Exposure guidelines

#### US ACGIH Threshold Limit Values: Skin designation

CITRAL (CAS 5392-40-5) Danger of cutaneous absorption

**Appropriate engineering controls** Use explosion-proof ventilation equipment to stay below exposure limits.

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

**Eye/face protection** Face shield is recommended.

#### Skin protection

**Hand protection** Chemical resistant gloves.

**Other** Use of an impervious apron is recommended.

**Respiratory protection** Respiratory protection not required. 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. Contaminated work clothing should not be allowed out of the workplace.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Refer to Spec Sheet

### Physical state

Liquid.

### Form

Liquid.

### Color

Refer to Spec Sheet

### Odor

Characteristic.

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<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	14 °F (-10 °C)
<b>Initial boiling point and boiling range</b>	442.4 - 444.2 °F (228 - 229 °C) at 760.00 mmHg
<b>Flash point</b>	212.0 °F (100.0 °C) Closed Cup
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	0.2 mm Hg at 20 °C
<b>Vapor density</b>	5.3
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Insoluble
<b>Partition coefficient (n-octanol/water)</b>	3.45
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Other information</b>	
<b>Density</b>	0.89 g/cm3 estimated at 15 °C
<b>Explosive properties</b>	Not explosive.
<b>Flammability class</b>	Combustible IIIB estimated
<b>Molecular formula</b>	C10-H16-O
<b>Molecular weight</b>	152.23 g/mol
<b>Oxidizing properties</b>	Not oxidizing.
<b>Specific gravity</b>	0.89 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>	Porous material such as rags, paper, insulation, or organic clay may spontaneously combust when wetted with this material.
<b>Incompatible materials</b>	Strong oxidizing agents.
<b>Hazardous decomposition products</b>	No hazardous decomposition products if stored and handled as indicated.

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## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

<b>Inhalation</b>	Prolonged inhalation may be harmful.
<b>Skin contact</b>	May be harmful in contact with skin. Causes skin irritation. May cause an allergic skin reaction.
<b>Eye contact</b>	Causes serious eye irritation. Causes mild eye irritation.
<b>Ingestion</b>	Knowledge about health hazard is incomplete.
<b>Symptoms related to the physical, chemical and toxicological characteristics</b>	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

### Information on toxicological effects

<b>Acute toxicity</b>	May be harmful in contact with skin.
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Product	Species	Test Results
CITRAL (CAS 5392-40-5)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	2250 mg/kg
<b>Skin corrosion/irritation</b>	Causes skin irritation.	
	Species, rabbit: Result - Irritant. Method: BASF-Test	
<b>Serious eye damage/eye irritation</b>	Causes serious eye irritation.	
	Species, rabbit: Result - Slightly irritating. Method: BASF-Test	
<b>Respiratory or skin sensitization</b>		
<b>ACGIH sensitization</b>		
Citral, inhalable fraction and vapor (CAS 5392-40-5)	Dermal sensitization	
<b>Respiratory sensitization</b>	Due to partial or complete lack of data the classification is not possible.	
<b>Skin sensitization</b>	May cause an allergic skin reaction.	
	Guinea pig maximization test. Species: guinea pig. Result: sensitizing	
<b>Germ cell mutagenicity</b>	Due to partial or complete lack of data the classification is not possible.	
<b>Carcinogenicity</b>	Due to partial or complete lack of data the classification is not possible.	

### IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

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

Not listed.

<b>Reproductive toxicity</b>	Due to partial or complete lack of data the classification is not possible.
<b>Specific target organ toxicity - single exposure</b>	Due to partial or complete lack of data the classification is not possible.
<b>Specific target organ toxicity - repeated exposure</b>	Due to partial or complete lack of data the classification is not possible.

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

**Chronic effects** Prolonged inhalation may be harmful.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity** Toxic to aquatic life.

Product	Species	Test Results
CITRAL (CAS 5392-40-5)		
<i>Acute</i>		
Other	EC20	Activated sludge of a predominantly domestic sewage 68 mg/l, 0.5 hours OECD Guideline 209 aquatic
<b>Aquatic</b>		
Other	EC50	Bacterium 2100 mg/l, 0.5 hours DIN 38412 Part 27 (draft) aquatic - The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested. The details of the toxic effect relate to the nominal concentration.
<i>Acute</i>		
Algae	EC50	Green algae (Chlamydomonas variabilis) 103.8 mg/l, 72 hours DIN 38412 Part 9 static - The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested. The details of the toxic effect relate to the nominal concentration.
Crustacea	EC50	Daphnia magna 7 mg/l, 48 hours Directive 79/831/EEC static - The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested. The details of the toxic effect relate to the nominal concentration.
Fish	LC50	Ide, silver or golden orfe (Leuciscus idus) > 4.6 - < 10 mg/l, 96 hours DIN 38415 Part 15 static - The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested. The details of the toxic effect relate to the nominal concentration.

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#### Persistence and degradability

Biological/Abiological Degradation

Test method: OECD 301C; ISO 9408; 92/69/EEC, C.4-F (aerobic), activated sludge, domestic

Method of analysis: BOD of the ThOD

Degree of elimination: 92% (28 d)

Test method: OECD 301F; ISO 9408; 92/69/EEC, C.4-D, activated sludge, domestic

Method of analysis: BOD of the ThOD

Degree of elimination: > 90% (28d)

Evaluation: Readily biodegradable (according to OECD criteria).

#### Bioaccumulative potential

No data available.

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

3.45

#### 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

Do not discharge into drains, water courses or onto the ground. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Local disposal regulations

Dispose in accordance with all applicable regulations.

#### Hazardous waste code

Not established.

#### Waste from residues / unused products

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

#### Contaminated packaging

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

## 14. TRANSPORT INFORMATION

#### ADN

Not regulated as dangerous goods.

#### ADR

Not regulated as dangerous goods.

#### RID

Not regulated as dangerous goods.

#### DOT

#### BULK

Not regulated as dangerous goods.

#### DOT

#### NON-BULK

Not regulated as dangerous goods.

#### IATA

Not regulated as dangerous goods.



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#### IMDG

Not regulated as dangerous goods.

## 15. REGULATORY INFORMATION

### US federal regulations

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

### Toxic Substances Control Act (TSCA)

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

Not regulated.

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

Not listed.

### SARA 304 Emergency release notification

Not regulated.

### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

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

#### SARA 302 Extremely hazardous substance

Not listed.

#### SARA 311/312 Hazardous chemical

**Classified hazard categories**

- Acute toxicity (any route of exposure)
- Skin corrosion or irritation
- Serious eye damage or eye irritation
- Respiratory or skin sensitization

#### SARA 313 (TRI reporting)

Not regulated.

### Other federal regulations

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

Not regulated.

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

Not regulated.

#### Safe Drinking Water Act (SDWA)

Not regulated.

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

**Issue date** 12-17-2015

**Revision date** 12-28-2022

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**HMIS® ratings**

Health: 2
Flammability: 1
Physical hazard: 0



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#### List of abbreviations

ACGIH: American Conference of Governmental Industrial Hygienists.  
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.  
CAS: Chemical Abstract Service.  
IARC: International Agency for Research on Cancer.  
IATA: International Air Transport Association.  
IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk.  
IMDG: International Maritime Dangerous Goods.  
MARPOL: International Convention for the Prevention of Pollution from Ships.  
RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.  
STEL: Short term exposure limit.  
TWA: Time Weighted Average.

#### Disclaimer

Vigon International, LLC 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. The above information relates only to this product and not to its use in combination with any other material or any particular process and is designed only as guidance for the safe handling, use, processing, storage, transportation, and disposal and should not be considered as a guarantee or quality specification. This product has not been evaluated for safe use in e-cigarettes or any vaping application where the product(s) is/are intentionally vaporized and inhaled. Vigon International, Inc. has performed no testing on these products in e-cig/vaping applications. It is the sole responsibility of the individual(s) purchasing this product to assess its' safety in the final application. The above information relates only to this product and not to its use in combination with any other material or any particular process and is designed only as guidance for the safe handling, use, processing, storage, transportation, disposal, and should not be considered as a guarantee or quality specification. The above information is based on data provided by and collected from recognized sources such as distributors, manufacturers, and technical groups and is considered to be accurate to the best of Vigon's knowledge as of the date of this document. It is the responsibility of the user to review all safety information about this product and determine its safety and suitability in their own processes and operations. Appropriate warnings and safe handling procedures should be provided to all handlers and users, taking into account the intended use and the specific conditions and factors relating to such use in accordance with all applicable laws and regulations.

#### Revision information

This document has undergone significant changes and should be reviewed in its entirety.