SAFETY DATA SHEET
501232 CORONOL (DIMETHYL-3,5 1,2-CYCLOPENTADIONE)

1. IDENTIFICATION

Product Description: CORONOL (DIMETHYL-3,5 1,2-CYCLOPENTADIONE)

CAS # 13494-07-0

FEMA Number 3269

Other means of identification
Vigon Item # 501232

Recommended use
Concentrated flavor ingredient which may be used in flavor compounds according to legal and FEMA GRAS/FDA guidelines.

Recommended restrictions
For Manufacturing Use Only

Company
Vigon International, Inc.
127 Airport Road
E. Stroudsburg, PA 18301

For information call: 570-476-6300
Web Site: www.vigon.com

24 Hour Emergency Response Information
INFOTRAC (ACCT# 78928);
1-800-535-5053 WITHIN THE U.S.A.
1-352-323-3500 OUTSIDE THE U.S.A.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name Vigon International, Inc.
Address 127 Airport Road
E. Stroudsburg, PA 18301
United States

Telephone For information call: 570-476-6300
Website www.vigon.com
E-mail Not available.

Emergency phone number
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2. HAZARD(S) IDENTIFICATION

Physical hazards Not classified.

Health hazards Acute toxicity, oral Category 4

Environmental hazards Not classified.

Label elements

Signal word Warning

Hazard statement Harmful if swallowed.

Precautionary statement
Prevention Wash thoroughly after handling. Do not eat, drink or smoke when using this product.
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Response
IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

Storage
Store away from incompatible materials.

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

Hazard(s) not otherwise classified (HNOC)
WARNING! May form combustible dust concentrations in air. Avoid breathing dust.

Supplemental information
100% of the mixture consists of component(s) of unknown acute dermal toxicity. 100% of the mixture consists of component(s) of unknown acute inhalation toxicity. 100% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 100% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>3,5-dimethyl/cyclopentane-1,2-dione</td>
<td>cyclopentane-1,2-dione, 3,5-dimethyl-1,2-Cyclopentadione, 3,5-dimethyl-</td>
<td>13494-07-0</td>
<td>100</td>
</tr>
</tbody>
</table>

### 4. FIRST-AID MEASURES

**Inhalation**
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.

**Skin contact**
Take off immediately all contaminated clothing. Get medical attention if irritation develops and persists. Wash skin thoroughly with soap and water for several minutes.

**Eye contact**
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.

**Ingestion**
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.

**Most important symptoms/effects, acute and delayed**
Dusts may irritate the respiratory tract, skin and eyes.

**Indication of immediate medical attention and special treatment needed**
Not available.

**General information**
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.

### 5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media**
Water spray, fog, CO2, 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**
Explosion hazard: Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Fire may produce irritating, corrosive and/or toxic gases.
### 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). Sweep up and place in a clearly labeled container for chemical waste. Wash contaminated area with water. Use only non-sparking tools. Avoid the generation of dusts during clean-up. This material and its container must be disposed of as hazardous waste. Collect and dispose of spillage as indicated in section 13 of the SDS.

Never return spills in original containers for re-use.

**Environmental precautions**

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

### 7. HANDLING AND STORAGE

**Precautions for safe handling**

Take precautionary measures against static discharges when there is a risk of dust explosion. Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Do not handle or store near an open flame, heat or other sources of ignition. Assume that this material is capable of producing a dust explosion if ignited as a dust cloud.

Take precautionary measures against static discharges. Avoid breathing vapor. Avoid breathing dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Wash thoroughly after handling.

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

Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store under refrigeration (35-50°F).

### 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).
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Appropriate engineering controls
Use only appropriately classified electrical equipment and powered industrial trucks. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Use explosion-proof ventilation equipment to stay below exposure limits. Adequate ventilation should be provided so that exposure limits are not exceeded.

Individual protection measures, such as personal protective equipment
Eye/face protection
Wear safety glasses with side shields (or goggles).

Skin protection
Hand protection
Chemical resistant gloves.

Other
Not available.

Respiratory protection
Respiratory protection not required. If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Thermal hazards
Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations
When using, do not eat, drink or smoke. 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
Refer to Spec Sheet

Physical state
Powder/Crystal.

Form
Powder. Crystalline powder.

Color
Refer to Spec Sheet

Odor
Characteristic.

Odor threshold
Not available.

pH
Not available.

Melting point/freezing point
188.6 - 199.4 °F (87 - 93 °C)

Initial boiling point and boiling range
368.6 °F (187 °C)

Flash point
> 200.0 °F (> 93.3 °C) Closed Cup

Evaporation rate
Not available.

Flammability (solid, gas)
Not available.

Upper/lower flammability or explosive limits
Flammability limit - lower (%)
Not available.

Flammability limit - upper (%)
Not available.

Explosive limit - lower (%)
Not available.

Explosive limit - upper (%)
Not available.
10. STABILITY AND REACTIVITY

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

Chemical stability
Material is stable under normal conditions.

Possibility of hazardous reactions
No dangerous reaction known under conditions of normal use.

Conditions to avoid
Keep away from heat, sparks and open flame. Avoid temperatures exceeding the flash point. Contact with incompatible materials. Minimize dust generation and accumulation.

Incompatible materials
Strong oxidizing agents.

Hazardous decomposition products
No hazardous decomposition products if stored and handled as indicated.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation
Irritating to respiratory system.

Skin contact
Causes mild skin irritation.

Eye contact
Dust may irritate the eyes. Causes mild eye irritation.

Ingestion
Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics
Dusts may irritate the respiratory tract, skin and eyes.

Information on toxicological effects

Acute toxicity
Harmful if swallowed.
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<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>3,5- dimethylcyclopentane-1,2-dione (CAS 13494-07-0)</td>
<td>Acute</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Oral</td>
<td>Rat</td>
</tr>
</tbody>
</table>

- **LD50**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion/irritation</td>
<td>Prolonged skin contact may cause temporary irritation.</td>
<td></td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Direct contact with eyes may cause temporary irritation.</td>
<td></td>
</tr>
</tbody>
</table>

**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.

**Carcinogenicity**

- **IARC Monographs. Overall Evaluation of Carcinogenicity**: Not listed.
- **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.

### 12. ECOLOGICAL INFORMATION

**Ecotoxicity**: The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Persistence and degradability**: No data is available on the degradability of this substance.

**Bioaccumulative potential**: No data available.

**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.

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.

CERCLA Hazardous Substance List (40 CFR 302.4)
Not listed.

SARA 304 Emergency release notification
Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Not available.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)
Not regulated.
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)
SARA 302 Extremely hazardous substance
Not listed.
SARA 311/312 Hazardous chemical
   Classified hazard categories
      Combustible dust
      Acute toxicity (any route of exposure)
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 Proposition 65
California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance
Not listed.

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

Issue date 11-28-2015
Revision date 10-22-2018
Version # 02

Further information Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, for safe handling.

HMIS® ratings
   Health: 1
   Flammability: 1
   Physical hazard: 0
Disclaimer

Vigon International, Inc. 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.