

SAFETY DATA SHEET**502798 HEDIONE® HC**

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Version # 07

Print Date: 09-18-2019

1. IDENTIFICATION

Product Description: HEDIONE® HC
CAS # 24851-98-7
FEMA Number 3408
Other means of identification
Vigon Item # 502798
Recommended use Concentrated aromatic and flavor ingredient which may be used in flavor and fragrance compounds according to legal and IFRA or 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 INFOTRAC (ACCT# 78928);
1-800-535-5053 WITHIN THE U.S.A.
1-352-323-3500 OUTSIDE THE U.S.A.

2. HAZARD(S) IDENTIFICATION

Physical hazards Not classified.
Health hazards Not classified.
Environmental hazards Hazardous to the aquatic environment, Category 2
long-term hazard

Label elements

Signal word None.
Hazard statement Toxic to aquatic life with long lasting effects.



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Precautionary statement

Prevention	Avoid release to the environment.
Response	Collect spillage.
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) None known.

Supplemental information 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	%
METHYL DIHYDRO JASMONATE	Methyl 3-oxo-2-pentylcyclopentaneacetate CYCLOPENTANEACETIC ACID, 3-OXO-2-PENTYL-, METHYL ESTER cepionate 3-Oxo-2-pentylcyclopentaneacetic acid methyl ester	24851-98-7	100

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	Direct contact with eyes may cause temporary irritation.
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, CO ₂ , 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.



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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

Eliminate all sources of ignition. Avoid contact with skin or inhalation of spillage, dust or vapor. Keep unnecessary personnel away. 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

Collect and dispose of spillage as indicated in section 13 of the SDS.

Absorb with inert absorbent such as dry clay, sand or diatomaceous earth, commercial sorbents, or recover using pumps.

The product is immiscible with water and will spread on the water surface.

Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible.

Never return spills in original containers for re-use. This material and its container must be disposed of as hazardous waste. Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). 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. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers.

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

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

Do not handle or store near an open flame, heat or other sources of ignition. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Avoid breathing vapor. 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 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.



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Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	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	Wear suitable protective clothing.
Respiratory protection	Respiratory protection not required. If ventilation is insufficient, suitable respiratory protection must be provided.
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	Refer to Spec Sheet
Physical state	Liquid.
Form	Liquid.
Color	Refer to Spec Sheet
Odor	Characteristic.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	228.2 - 233.6 °F (109 - 112 °C) at 0.2 mmHg
Flash point	> 200.0 °F (> 93.3 °C) Closed Cup
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
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.
Vapor pressure	< 0.1 mm Hg at 20 °C
Vapor density	7.8
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Insoluble

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Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Flammability class	Combustible IIIB estimated
Molecular formula	C13H22O3
Molecular weight	226.32 g/mol
Oxidizing properties	Not oxidizing.
Specific gravity	1 at 25 °C

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	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
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	Knowledge about health hazard is incomplete.
Skin contact	Causes mild skin irritation.
Eye contact	Knowledge about health hazard is incomplete. Causes mild eye irritation.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity Not known.

Product	Species	Test Results
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METHYL DIHYDRO JASMONATE (CAS 24851-98-7)

Presumed Non-Toxic

Dermal

LD50	Rabbit	>= 5000 mg/kg (OECD 401)
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Oral

LD50	Rat	>= 5000 mg/kg (OECD 402)
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Skin corrosion/irritation	Due to partial or complete lack of data the classification is not possible. Primary Skin irritation (Rabbit, OECD 404, Occlusive): Non irritant Acute Eye irritation (Rabbit, OECD 405): Non irritant
Serious eye damage/eye irritation	Due to partial or complete lack of data the classification is not possible. Irritation (ocular, rabbit)(OECD 405): Minimally irritating @ 100%
Respiratory or skin sensitization	
Respiratory sensitization	Due to partial or complete lack of data the classification is not possible.
Skin sensitization	Due to partial or complete lack of data the classification is not possible. Local Lymph Node Assay (LLNA) OECD 429: Non-sensitising to skin Guinea pig Maximisation test (OECD 406): Non-sensitising to skin Human Repeated Insult Patch Test: No effects Determination of Photoallergenicity in Guinea pig : No effects
Germ cell mutagenicity	Bacterial Reverse Mutation test (Ames) (Salmonella + E. Coli, OECD 471, With and without S9, 5 strains): Non mutagenic Bacterial Reverse Mutation test (Ames) (Salmonella, OECD 471, With and without S9, 5 strains): Non mutagenic In Vivo Mammalian Erythrocyte Micronucleus Test (Mouse, OECD 474, Intraperitoneal): Non mutagenic Due to partial or complete lack of data the classification is not possible.
Carcinogenicity	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.
Reproductive toxicity	Due to partial or complete lack of data the classification is not possible. Combined Repeat. Dose Tox. & Reprod./Develop. Tox. Screening (Rat, OECD 422, Gavage) NOAEL = 1000 mg/kg/day NOAEL (fertility) = 1000 mg/kg/day Prenatal development toxicity study (Rat, OECD 414, Gavage, 21 day(s)) NOAEL = 80 mg/kg/day NOAEL (development) = 120 mg/kg/day
Specific target organ toxicity - single exposure	Due to partial or complete lack of data the classification is not possible.
Specific target organ toxicity - repeated exposure	Due to partial or complete lack of data the classification is not possible.
Aspiration hazard	Due to partial or complete lack of data the classification is not possible.
Further information	Local lymph node assay (OECD 429) : EC3 > 100% (> 25000 microg/cm2)

12. ECOLOGICAL INFORMATION

Ecotoxicity Toxic to aquatic life with long lasting effects.

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Product	Species		Test Results
METHYL DIHYDRO JASMONATE (CAS 24851-98-7)			
<i>Aquatic</i>			
<i>Acute</i>			
Algae	ErC50	Algae	45.9 mg/l, 72 hours (OECD 201, Static)
	NOEC	Algae	11.7 mg/l, 72 hours (OECD 201, Static)
Crustacea	EC10	Daphnia magna	1.86 mg/l, 21 days Reproduction Test (OECD 211)
	EC50	Daphnia	> 16.1 mg/l, 48 hours (OECD 202) 8.25 mg/l, 48 hours (OECD 202, Static)
Fish	LC50	Medaka, high-eyes (<i>Oryzias latipes</i>)	19 mg/l, 96 hours (OECD 203, Semi-Static)

Persistence and degradability Ready Biodegradation - Manometric Respirometry Test (OECD 301F, Sludge): Readily biodegradable (89% in 28 day(s))
Hydrolysis as a Function of pH (OECD 111): Estimated Half-life at pH4 > 1 year
Hydrolysis as a Function of pH (OECD 111): Estimated Half-life at pH7 > 1 year
Hydrolysis as a Function of pH (OECD 111): Estimated Half-life at pH9 = 7.80 day(s)

Bioaccumulative potential Log Kow = 2.79 (OECD 117)
Log Kow = 2.81 (OECD 117)
Log Kow = 2.93 (OECD 107)

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

UN number	3082
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (METHYL DIHYDRO JASMONATE)
Transport hazard class(es)	9

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Subsidiary class(es) -
 Packing group III
 Environmental hazards Yes
 Labels required 9

ADR

UN number 3082
 UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (METHYL DIHYDRO JASMONATE)
 Transport hazard class(es) 9
 Subsidiary class(es) -
 Packing group III
 Environmental hazards Yes
 Labels required 9

RID

UN number 3082
 UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (METHYL DIHYDRO JASMONATE)
 Transport hazard class(es) 9
 Subsidiary class(es) -
 Packing Group III
 Environmental Hazards Yes
 Labels required 9
 Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

DOT

BULK

UN number 3082
 Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (METHYL DIHYDRO JASMONATE)
 Hazard class 9
 Packing group III
 Environmental hazards
 Marine pollutant Yes
 Labels required 9

DOT

NON-BULK

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

UN number 3082
 UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (METHYL DIHYDRO JASMONATE)
 Transport hazard class(es) 9
 Subsidiary class(es) -

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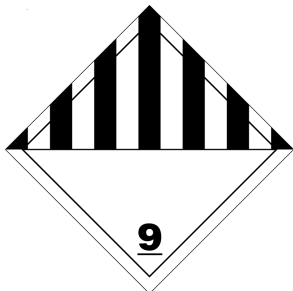
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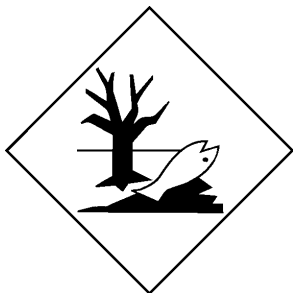
Print Date: 09-18-2019

Packing group	III
Environmental hazards	
Marine pollutant	Yes
Labels required	9
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

ADN; ADR; DOT BULK; IMDG; RID



Marine pollutant



15. REGULATORY INFORMATION

US federal regulations

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.



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SARA 311/312 Hazardous chemical No

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 10-02-2013
Revision date 09-18-2019
Version # 07
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

Product and Company Identification: Vigon Values
Physical & Chemical Properties: Multiple Properties
Toxicological Information: Toxicological Data
Regulatory Information: Risk Phrases - Labeling