

CERTIFICATE OF ANALYSIS



HEDIONE
Batch Number: 4521807

MET0005
CAS#: 24851-98-7

FEMA#: 3408

PRODUCT IDENTIFICATION

PRODUCT NAME	HEDIONE/ METHYL DIHYDROJASMONATE	!
MOLECULAR FORM	C13 H22 O3	
MOLECULAR WT	226.30	
MELTING POINT (C)		
BOILING POINT (C)	300 deg C	
FLASH POINT (F)	313 deg F	
BEST BEFORE DATE	October 2026	

PHYSICAL SPECIFICATIONS	RANGE	RESULTS
APPEARANCE	CLEAR COLORLESS TO PALE YELLOW LIQUID	
ODOR	FLORAL, JASMIN LIKE	
SPECIFIC GRAVITY (25C)	0.9950 to 1.0080	
REFRACTIVE INDEX (20C)	1.4540 to 1.4650	
SOLUBILITY	SOLUBLE IN ALCOHOL, OIL; INSOLUBLE IN WATER	

ANALYTICAL SPECIFICATIONS	RANGE	RESULTS
PURITY (BY GC)	96.0% MIN (BOTH ISOMERS)	

OTHER SPECIFICATIONS	RANGE	RESULTS
ACID VALUE	1.0 MAX	
SOLUBILITY IN ALCOHOL	SOLUBLE IN ALL PROPORTION 95% ALCOHOL	

STABILITY

STABLE UNDER NORMAL CONDITIONS

STORAGE

STORE IN COOL DRY PLACE AWAY FROM HEAT AND SUNLIGHT.
 SHELF LIFE CONSIDERATIONS APPLY ONLY FOR ORIGINAL UNOPENED CONTAINERS

FRAGRANCE ALLERGENS

We hereby certify that:

HEDIONE

Contains the following fragrance allergens as detailed in the 7th Amendment to the EU Cosmetic Directive 76/768/EEC:

	Allergen	Reference	CAS number	Content %
1	Alpha isomethylionone	III / 90	127-51-5	-
2	Amyl cinnamal	III / 67	122-40-7	-
3	Amylcinnamyl alcohol	III / 74	101-85-9	-
4	Anisyl alcohol	III / 80	105-13-5	-
5	Benzyl alcohol	III / 45	100-51-6	-
6	Benzyl benzoate	III / 85	120-51-4	-
7	Benzyl cinnamate	III / 81	103-41-3	-
8	Benzyl salicylate	III / 75	118-58-1	-
9	Butylphenyl methylpropional (Lilial)*	III / 83	80-54-6	-
10	Cinnamal	III / 76	104-55-2	-
11	Cinnamyl alcohol	III / 69	104-54-1	-
12	Citral	III / 70	5392-40-5	-
13	Citronellol	III / 86	106-22-9	-
14	Coumarin	III / 77	91-64-5	-
15	Eugenol	III / 71	97-53-0	-
16	Farnesol	III / 82	4602-84-0	-
17	Geraniol	III / 78	106-24-1	-
18	Hexyl cinnamal	III / 87	101-86-0	-
19	Hydroxycitronellal	III / 72	107-75-5	-
20	Hydroxyisohexyl 3-cyclohexene carboxaldehyde (Lyrall)*	III / 79	31906-04-4 51414-25-6	-
21	Isoeugenol	III / 73	97-54-1	-
22	Limonene	III / 88	5989-27-5	-
23	Linalool	III / 84	78-70-6	-
24	Methyl 2-octynoate	III / 89	111-12-6	-
25	Evernia furfuracea (Treemoss) extract	III / 91	90028-67-4	-
26	Evernia prunastri (Oakmoss) extract	III / 92	90028-68-55	-

(All absent)

The information contained in this document is accurate to the best of our knowledge at the time given. This document is provided for internal use only. MADAR Corporation is not liable for any damages that may result from the misuse of data. Absent means <1ppm or not detectable.

*No longer permitted in cosmetics in the European Union and has been delisted from Annex III.

Date of issue: 17/01/2023



CMR DECLARATION

We hereby certifies that:

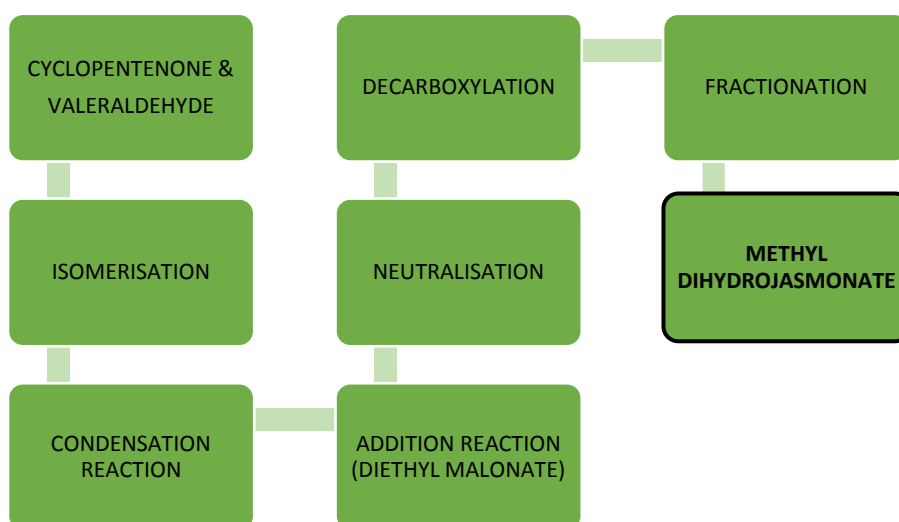
HEDIONE

contains the following components listed as carcinogenic, mutagenic or toxic for reproduction in Annex VI
Part 3 of Regulation (EC) 1272/2008

Substance	Content	Classification
<i>none contained</i>		

PROCESS FLOW CHART

HEDIONE



We hereby certify that the products has no added antioxidants, diluents, colorants or preservatives.



GMO STATEMENT

We hereby certify that:

HEDIONE

to the best of our knowledge does not derive from a genetically modified source (GMO) as specified in Regulation (EC) No 1829/2003 nor have GMO materials been used in its manufacture or as additives.

It requires no special labelling or traceability with regards to GMO as outlined in Regulation (EC) No 1830/2003.

It also adheres to the procedures outlined in Regulation (EU) 848/2018 article 11 (4) regarding organic production and is neither produced from or by GMOs.

Date of issue: 17/01/2023



IFRA CERTIFICATE

HEDIONE

We hereby certifies that the above material complies with the requirements of the INTERNATIONAL FRAGRANCE ASSOCIATION - IFRA-50th Amendment / published June 30th 2021) provided it is used in following application (class) at a maximum concentration level of:

IFRA category	Maximum level of use (%)
Class 1	Not restricted
Class 2	Not restricted
Class 3	Not restricted
Class 4	Not restricted
Class 5A	Not restricted
Class 5B	Not restricted
Class 5C	Not restricted
Class 5D	Not restricted
Class 6	Not restricted
Class 7A	Not restricted
Class 7B	Not restricted
Class 8	Not restricted
Class 9	Not restricted
Class 10A	Not restricted
Class 10B	Not restricted
Class 11A	Not restricted
Class 11B	Not restricted
Class 12	Not restricted

The above values were calculated based on the following IFRA restricted materials: <none contained>

Date of issue: 23/09/2021

The IFRA Standards regarding use restrictions are based on safety assessments by the Panel of Experts of the RESEARCH INSTITUTE FOR FRAGRANCE MATERIALS (RIFM) and are enforced by the IFRA Scientific Committee.

It is the ultimate responsibility of our customer to ensure the safety of the final product by further testing if need be. Evaluation of the Fragrance ingredient was made according to the safety requirements contained in the relevant section of the IFRA Code of Practice.

IFRA category includes	IFRA category
Children's toys, Lip Products of all types (solid and liquid lipsticks, balms, clear or coloured etc...) (****)	Class 1
Deodorant and Antiperspirant products of all types (spray, stick, roll-on, under-arm and body etc...), Body sprays (including body mist)	Class 2
Eye products of all types (eye shadow, mascara, eyeliner, eye make-up, eye masks, eye pillows, etc.) including eye care and moisturizer; Facial make up and foundation; Make-up remover for face and eyes; Nose pore strips; Wipes or refreshing tissues for face, neck, hands, body; Body and face paint (for children and adults); Facial masks for face and around the eyes	Class 3
Hydroalcoholic and non-hydroalcoholic fine fragrance of all types (Eau de Toilette, Parfum, Cologne, solid perfume, fragrancing cream, aftershaves of all types, etc.); Fragranced bracelets; Ingredients of perfume kits and fragrance mixtures for cosmetic kits; Scent pads, foil packs; Scent strips for hydroalcoholic products	Class 4
Body creams, oils, lotions of all types; Foot care products (creams and powders); Insect repellent (intended to be applied to the skin); All powders and talc (excluding baby powders and talc)	Class 5A
Facial toner; Facial moisturizers and creams	Class 5B
Hand cream; Nail care products including cuticle creams, etc.	Class 5C
Baby cream/lotion, baby oil, baby powders and talc	Class 5D
Mouthwash, including breath sprays; Toothpaste; Toothpowder, strips, mouthwash tablets (****)	Class 6
Hair permanent or other hair chemical treatments (rinse-off) (e.g. relaxers), including rinse-off hair dyes	Class 7A
Hair sprays of all types (pumps, aerosol sprays, etc.); Hair styling aids non sprays (mousse, gels, leave-on conditioners); Hair permanent or other hair chemical treatments (leave-on) (e.g. relaxers), including leave-on hair dyes; Shampoo - Dry (waterless shampoo); Hair deodorizer	Class 7B
Intimate wipes; Tampons; Baby wipes; Toilet paper (wet)	Class 8
Bar Soap; Shampoo off all type; Cleanser for face (rinse off); Conditioner (rinse off); Liquid Soap; Body washes and shower gels of all types; Baby wash, bath, shampoo; Bath gels, foams, mousses, salts, oils and other products added to bathwater; Foot care products (feet are placed in a bath for soaking); Shaving creams of all types (stick, gels, foams, etc.); All depilatories (including facial) and waxes for mechanical hair removal; Shampoos for pets	Class 9
Hand wash laundry detergent (including concentrates); Laundry pre-treatment of all types (e.g. paste, sprays, sticks); Hand dishwashing detergent (including concentrates); Hard surface cleaners of all types (bathroom and kitchen cleansers, furniture polish, etc.); Machine laundry detergents with skin contact (e.g. liquids, powders) including concentrates; Dry cleaning kits; Toilet seat wipes; Fabric softeners of all types including fabric softener sheets; Household cleaning products, other types including fabric cleaners, soft surface cleaners, carpet cleaners, furniture polishes sprays and wipes, leather cleaning wipes, stain removers, fabric enhancing sprays, treatment products for textiles (e.g. starch sprays, fabric treated with fragrances after wash, deodorizers for textiles or fabrics); Floor wax; Fragranced oil for lamp ring, reed diffusers, pot-pourri, liquid refills for air fresheners (non-cartridge systems), etc; Ironing water (Odorized distilled water)	Class 10A
Animal sprays – sprays applied to animals of all types; Air freshener sprays, manual, including aerosol and pump; Aerosol/spray insecticides	Class 10B
Feminine hygiene conventional pads, liners, interlabial pads; Diapers (baby and adult); Adult incontinence pant, pad; Toilet paper (dry);	Class 11A
Tights with moisturizers; Scented socks, gloves; Facial tissues (dry tissues); Napkins; Paper towels; Wheat bags; Facial masks (paper/protective) e.g. surgical masks not used as medical device; Fertilizers, solid (pellet or powder)	Class 11B
Candles of all types (including encased); Laundry detergents for machine wash with minimal skin contact (e.g. Liquid tabs, pods); Automated air fresheners and fragrancing of all types (concentrated aerosol with metered doses (range 0.05-0.5mL/spray), plug-ins, closed systems, solid substrate, membrane delivery, electrical, powders, fragrancing sachets, incense, liquid refills (cartridge), air freshening crystals); Air delivery systems; Cat Litter; Cell phone cases; Deodorizers/maskers not intended for skin contact (e.g. fabric drying machine deodorizers, carpet powders); Fuels; Insecticides (e.g. mosquito coil, paper, electrical, for clothing) excluding aerosols/sprays; Joss sticks or incense sticks; Dishwash detergent and deodorizers – for machine wash; Olfactive board games; Paints; Plastic articles (excluding toys); Scratch and sniff; Scent pack; Scent delivery system (using dry air technology); Shoe polishes; Rim blocks (Toilet)	Class 12

(****) Fragrance materials for use in these applications need also FEMA-GRAS conformity.

Date of issue: 23/09/2021



Safety Data Sheet

This safety data sheet was created pursuant to the requirements of:
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008

Product name
HEDIONE

Issuing Date 17-Jan-2023

Revision date 17-Jan-2023

Version 7

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name	METHYL DIHYDROJASMONATE
REACH registration number	01-2119493355-31-0002
EC No (EU Index No)	246-495-9
CAS No	24851-98-7
Chemical Name	Methyl (2-Amyl-3-Ocyclopentyl) Acetate
Synonyms	Hedione
Pure substance/mixture	Substance
Formula	C13H22O3
Molecular weight	226.3

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use

Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Supplier

Madar Corporation Limited
19 - 20 Sandleheath Industrial Estate
Fordingbridge
SP6 1PA
Tel: (+44) 1425 655 555
For further information, please contact

E-mail address technical@madarcorporation.co.uk

Non-Emergency Telephone Number +44 (0)1425 655 555

1.4. Emergency telephone number

Emergency telephone CHEMTREC

Emergency telephone - +1-703-741-5970

Europe CCN# 17256

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

2.2. Label elements

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

Hazard statements

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

Precautionary Statements - EU (§28, 1272/2008)

P102 - Keep out of reach of children

2.3. Other hazards

Harmful to aquatic life.

SECTION 3: Composition/information on ingredients

3.1 Substances

The product contains no substances which at their given concentration, are considered to be hazardous to health

Chemical nature Aliphatic ester.

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate

No information available

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Remove to fresh air.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Ingestion	Rinse mouth.

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

Symptoms No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

SECTION 5: Firefighting measures**5.1. Extinguishing media**

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical No information available.

Hazardous combustion products Irritating or toxic substances may be emitted upon burning, combustion, or decomposition.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Personal precautions Ensure adequate ventilation.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling	Ensure adequate ventilation.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep container tightly closed in a dry and well-ventilated place.
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7.3. Specific end use(s)

Risk Management Methods (RMM)	The information required is contained in this Safety Data Sheet.
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SECTION 8: Exposure controls/personal protection**8.1. Control parameters**

Exposure Limits	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
Biological occupational exposure limits	This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.
Derived No Effect Level (DNEL)	Workers.
dermal	9.04 mg/kg bw/day
Inhalation	29.3 mg/m ³
Derived No Effect Level (DNEL)	General Population.
oral	2.5 mg/kg bw/day
dermal	5.43 mg/kg bw/day
Inhalation	8.69 mg/m ³
Predicted No Effect Concentration (PNEC)	
Fresh Water	37.2 µg/L
Sea Water	3.72 µg/L
Sea sediment	189.7 µg/kg sediment dw
Soil	357.6 µg/kg soil dw
Impact on Sewage Treatment	10 mg/L

8.2. Exposure controls

Engineering controls	No information available.
Personal Protective Equipment	
Eye/face protection	No special protective equipment required.
Skin and body protection	No special protective equipment required.
Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Clear
Color	CLEAR COLORLESS TO PALE YELLOW LIQUID
Odor	Characteristic odor.
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point	< -20 °C	
Boiling point / boiling range	302 °C	
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability limit:	No data available	
Lower flammability limit:	No data available	
Flash Point	100 °C	
Autoignition Temperature	259 °C	
Decomposition temperature		None known
pH	No data available	None known
pH (as aqueous solution)	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	10.7 mPa s	(20°C)
Water solubility	No data available	(20°C)
solubility(ies)	No data available	None known
Partition coefficient	Log Kow (Log Pow) - 2.93	(22°C)
Vapor pressure	0.0002kPa	(20°C)
Relative density	0.995 - 1.008	(25°C)
Bulk Density	No data available	
Density	No data available	
Vapor Density	No data available	None known
Particle characteristics		
Particle Size	No information available	
Particle Size Distribution	No information available	

9.2. Other information

Molecular weight	226.3
Refractive Index	1.4540 to 1.4650

9.2.1. Information with regard to physical hazard classes
Not applicable

9.2.2. Other safety characteristics
No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity No information available.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid None known based on information supplied.

10.5. Incompatible materials

Incompatible materials None known based on information supplied.

10.6. Hazardous decomposition products

Hazardous Decomposition Products None known based on information supplied.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Acute toxicity

Numerical measures of toxicity

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity This product does not contain any known or suspected reproductive hazards above the threshold value.

STOT - single exposure oral.

STOT - repeated exposure No information available.

Aspiration hazard Not classified.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties No information available.

11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity The environmental impact of this product has not been fully investigated.

Unknown aquatic toxicity Contains 0 % of components with unknown hazards to the aquatic environment.

12.2. Persistence and degradability

Persistence and degradability Readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulation There is no data for this product.

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).

12.6. Other adverse effects

Endocrine disrupting properties No information available.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

Waste from residues/unused products	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Do not reuse empty containers.

SECTION 14: Transport information**IATA**

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

IMDG

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None
14.7 Maritime transport in bulk according to IMO instruments	No information available

RID

14.1 UN/ID no	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

ADR

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Authorizations and/or restrictions on use:

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants

Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

International Inventories

TSCA	Contact supplier for inventory compliance status
DSL/NDL	Contact supplier for inventory compliance status
EINECS/ELINCS	Contact supplier for inventory compliance status
ENCS	Contact supplier for inventory compliance status
IECSC	Contact supplier for inventory compliance status
KECL	Contact supplier for inventory compliance status
PICCS	Contact supplier for inventory compliance status
AICS	Contact supplier for inventory compliance status
NZIoC	Contact supplier for inventory compliance status

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

15.2. Chemical safety assessment

Chemical Safety Report No information available

SECTION 16: Other information**Key or legend to abbreviations and acronyms used in the safety data sheet****Full text of H-Statements referred to under section 3**

H400 - Very toxic to aquatic life

Legend

SVHCL

LEG8 SECTION 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
+	Sensitizers		

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapor	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitization	Calculation method
Skin sensitization	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
 U.S. Environmental Protection Agency ChemView Database
 European Food Safety Authority (EFSA)
 European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
 European Chemicals Agency (ECHA) (ECHA_API)
 EPA (Environmental Protection Agency)
 Acute Exposure Guideline Level(s) (AELG(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals
 Food Research Journal
 Hazardous Substance Database
 International Uniform Chemical Information Database (IUCLID)
 National Institute of Technology and Evaluation (NITE)
 Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
 NIOSH (National Institute for Occupational Safety and Health)
 National Library of Medicine's ChemID Plus (NLM CIP)
 National Library of Medicine's PubMed database (NLM PUBMED)
 National Toxicology Program (NTP)
 New Zealand's Chemical Classification and Information Database (CCID)
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program
 Organization for Economic Co-operation and Development Screening Information Data Set
 World Health Organization

Revision date 17-Jan-2023

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

This material has not been tested or proven safe for inhalation. With this document, we only attest to the safety of the product when used in the appropriate and suitable fragrance/flavor industry application.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

Classification and labeling according to the IFRA/IOFI Labeling Manual 2021.

End of Safety Data Sheet

PRODUCT SPECIFICATION
PRODUCT IDENTIFICATION

PRODUCT NAME	HEDIONE!	!	!
MOLECULAR FORM	C13 H22 O3		
MOLECULAR WT	226.30		
MELTING POINT (C)			
BOILING POINT (C)	300	deg	C
FLASH POINT (F)	313	deg	F
SHELF LIFE (DAYS)	730		

PHYSICAL SPECIFICATIONS	RANGE	METHOD
APPEARANCE	CLEAR COLORLESS TO PALE YELLOW LIQUID	VISUAL
ODOR	FLORAL, JASMIN	ORGANOLEPTIC
	0.9950 to 1.0080	
SPECIFIC GRAVITY (25C)	1.4560 to 1.4620	FCC METHOD
REFRACTIVE INDEX (20C)	SOLUBLE IN ALCOHOL, OIL; INSOLUBLE IN	FCC METHOD
SOLUBILITY	WATER	FCC METHOD

ANALYTICAL SPECIFICATIONS	RANGE	METHOD
PURITY (BY GC)	96.0% MIN (BOTH ISOMERS)	QC_30.M
OTHER SPECIFICATIONS	RANGE	METHOD
ACID VALUE	1.0 MAX	FCC METHOD
SOLUBILITY IN ALCOHOL	SOLUBLE IN ALL PROPORTION 95% ALCOHOL	FCC METHOD

STABILITY

STABLE UNDER NORMAL CONDITIONS

STORAGE

STORE IN COOL DRY PLACE AWAY FROM HEAT AND SUNLIGHT.

SHELF LIFE CONSIDERATIONS APPLY ONLY FOR ORIGINAL UNOPENED CONTAINERS



DIETS DECLARATION

We hereby certify that:

HEDIONE

To the best of our knowledge is suitable for:

	Yes	No
Ovo-lacto Vegetarians	✓	
Vegetarians	✓	
Vegans	✓	
Coeliacs	✓	
Kosher	✓	
Halal	✓ (Not certified)	

Date of issue: 17/01/2023