

**IONONE BETA**

Version 7.0

Revision Date 18 JAN 2022

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**SECTION 1. Identification of the substance/mixture and of the company/undertaking**

**1.1 Product identifier**

Sales No. : 5992503  
IONONE BETA

Substance name : 4-(2,6,6-TRIMETHYL-1-CYCLOHEXEN-1-YL)-3-BUTEN-2-ONE

Identifier

CAS-No. : 79-77-6  
14901-07-6  
8013-90-9

EC-No. : 201-224-3  
: 238-969-9  
: 232-396-8

Formula : C13-H20-O

REACH Registration Number : 01-2119449921-34

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

Intended Use Fragrances : Perfumery or flavor ingredient

**1.3 Details of the supplier of the safety data sheet**

Company :  
Givaudan Suisse SA  
Chemin de la Parfumerie 5  
CH-1214 VERNIER

Telephone : +41227809111  
Telefax : +41227809150  
E-mail address : global.msds\_fragrances\_raps@givaudan.com  
Responsible/issuing person

**1.4 Emergency telephone number**

+33172110003  
Please refer to section 16 for a full list of emergency phone numbers.  
France - Numéro ORFILA (INRS) : 33 (0)1 45 42 59 59

**SECTION 2. Hazards identification**

**2.1 Classification of the substance or mixture**

**Classification (REGULATION (EC) No 1272/2008)**

**Long-term (chronic) aquatic hazard, Category 2** **H411: Toxic to aquatic life with long lasting effects.**

Administrative information:  
Report Information: SDS\_FR/EN/GHS\_SDS\_EU\_CNTRY/34  
Sales & Distribution Information: VE01/FR/CH11/01  
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2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms	:		
Hazard statements	:	H411	Toxic to aquatic life with long lasting effects.
Precautionary statements	:	<b>Prevention:</b> P273 <b>Response:</b> P391 <b>Disposal:</b> P501	Avoid release to the environment. Collect spillage. Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards

Hazards not Otherwise Classified. : None

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3. Composition/information on ingredients

3.1 Substances

Chemical name	CAS-No. EC-No. REACH Registration Number	Concentration [Percent by weight]	M-Factor, SCL, ATE
4-(2,6,6-	14901-07-6	>= 90 - <= 100	

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Trimethylcyclohex-1-en-1-yl)but-3-en-2-one (= ionone beta)	79-77-6 8013-90-9 238-969-9 201-224-3 232-396-8 01-2119449921-34		
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## SECTION 4. First aid measures

### 4.1 Description of first aid measures

General advice	: Do not leave the victim unattended.
If inhaled	: If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
In case of skin contact	: Take off contaminated clothing and shoes immediately. If on skin, rinse well with water.
In case of eye contact	: Remove contact lenses. Immediately flush eyes for at least 15 minutes. Get medical attention.
If swallowed	: Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

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

Symptoms	: no data available
Risks	: no data available

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

Treatment	: no data available
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## SECTION 5. Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media	: Dry chemical Alcohol-resistant foam Carbon dioxide (CO2) Water spray
Unsuitable extinguishing	: no data available

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media

### 5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.

### 5.3 Advice for firefighters

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

## SECTION 6. Accidental release measures

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

Personal precautions : no data available

### 6.2 Environmental precautions

Environmental precautions : Prevent product from entering drains.  
If the product contaminates rivers and lakes or drains inform respective authorities.

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

Methods for cleaning up : Wipe up with absorbent material (e.g. cloth, fleece).  
Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

Not applicable

## SECTION 7. Handling and storage

### 7.1 Precautions for safe handling

Advice on safe handling : For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Temperature class : no data available

Fire-fighting class : no data available

Dust explosion class : no data available

### 7.2 Conditions for safe storage, including any incompatibilities

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Requirements for storage areas and containers : Containers which are opened must be carefully resealed and kept upright to prevent leakage. Electrical installations / working materials must comply with the technological safety standards.

Further information on storage conditions : Ambient / 10-30°C (50-85°F)  
Dry, well ventilated, preferably full, hermetically sealed  
Advice on common storage : Protect against light.  
Storage class (TRGS 510) : 10 Combustible liquids  
Other data : No decomposition if stored and applied as directed.

### 7.3 Specific end use(s)

Specific use(s) : no data available

## SECTION 8. Exposure controls/personal protection

### 8.1 Control parameters

Contains no substances with occupational exposure limit values.

### 8.2 Exposure controls

Exposure assessment: Exposures are dependent on the product being handled, the potential for chemical release, and any resulting airborne concentrations or dermal contact. Since product handling and release scenarios vary, and no two workplaces are exactly alike, it is recommended that the potential for exposure be assessed prior to the product's use or introduction. Exposure assessments should be performed by an occupational hygienist, industrial hygienist, or other qualified occupational or environmental health professional. An exposure assessment should be conducted to determine the efficacy of any ventilation and the need for additional PPE. The PPE indicated below are recommendations for worst-case scenario exposures. An exposure assessment will identify more applicable measures to be implemented. EN and ANSI standards are mentioned in the following recommendations, consult equivalent local standards when required.

PPE is always the last resort to avoid exposure. In any case technical and organisational measures have to be explored and used prior to the selection of PPE. The PPE selection is for operators trained to work with chemicals according to good industrial hygiene and safety practice. Operators have to be trained on the use of PPE.

#### 8.2.1 Engineering measures

Use engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use the product only with adequate ventilation.

#### 8.2.2 Personal protective equipment

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|------------------------|--|
| Eye/face protection    | : Use safety glasses tested according to EN 166/ANSI Z87.1 or equivalent local standard.   |
| Hand protection        | : Use gloves when handling substance in open systems. Inspect gloves prior to use. Train operators for proper use. If only incidental exposure is expected: (work without direct contact to substance) use gloves tested according EN 16523-1/ASTM F739 or equivalent local standard breakthrough times at least 10 minutes, tested for chemicals indicated in chapter 3 of this SDS. Change gloves frequently. If direct skin contact is expected: use gloves tested according to EN 16523-1/ASTM F739 or equivalent local standard, tested for chemicals indicated in chapter 3 of this SDS. Permeation time must exceed contact time. |
| Other skin protection  | : Wear working clothes covering arms and legs.   |
| Respiratory protection | : Under normal use conditions, no respiratory protection should be needed. However, if discomfort is experienced, use an approved air-purifying respirator.  |
| Thermal hazards        | : Wear appropriate thermal protective clothing, when necessary.  |
| Hygiene measures       | : Remove contaminated clothing and protective equipment before entering eating areas.<br>Do not eat, drink or smoke during work.<br>Wash hands any time after handling the product.  |

### 8.2.3 Environmental exposure controls

- |                |  |
|----------------|--|
| General advice | : Prevent product from entering drains.<br>If the product contaminates rivers and lakes or drains inform respective authorities. |
|----------------|--|

## SECTION 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- |                           |   |
|---------------------------|---|
| Physical state            | : liquid                                      |
| Form                      | : Liquid medium viscosity, clear-almost clear |
| Colour                    | : Pale yellow to yellow                       |
| Taste                     | : not determined                              |
| Odour                     | : Floral, fruity, Earthy, Orris-like          |
| Odour Threshold           | : 0,2578 ng/l                                 |
| Flash point               | : 129 °C Method: closed cup                   |
| Lower explosion limit     | : 1 %(V)                                      |
| Upper explosion limit     | : 5,6 %(V)                                    |
| Flammability              | : no data available                           |
| Oxidizing properties      | : no data available                           |
| Auto-ignition temperature | : 270 °C                                      |

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Decomposition temperature	: no data available
Molecular weight	: 192,30 g/mol
pH	: no data available
Melting point	: -32 °C
Boiling point	: 267 °C at 1 013 hPa
Vapour pressure	: 0,0056 hPa at 20 °C 0,266 hPa at 65 °C
Density	: 943,29 kg/m3 at 20 °C
Bulk density	: Not applicable
Water solubility	: 128 mg/l at 25 °C
Solubility/qualitative	: completely soluble
Partition coefficient: n-octanol/water	: log Pow: 4,1 Method: OECD Test Guideline 117
Viscosity, kinematic	: 11,8 mm2/s at 20 °C Method: OECD Test Guideline 114
Relative vapour density	: no data available
Surface tension	: 27,1 mN/m at 20 °C
Evaporation rate	: no data available
Explosive properties	: no data available

### 9.2 Other information

Not applicable

## SECTION 10. Stability and reactivity

### 10.1 Reactivity

none

### 10.2 Chemical stability

The product is chemically stable.

### 10.3 Possibility of hazardous reactions

Hazardous reactions : Stable under recommended storage conditions., No hazards to be specially mentioned.

### 10.4 Conditions to avoid

Conditions to avoid : no data available

### 10.5 Incompatible materials

Materials to avoid : no data available

### 10.6 Hazardous decomposition products

Hazardous decomposition products : no data available  
Thermal decomposition : no data available

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**SECTION 11. Toxicological information**

**11.1 Information on toxicological effects**

**Acute toxicity**

**Acute oral toxicity** : LD50 Rat  
Dose: > 4 000 mg/kg

**Acute inhalation toxicity** : This information is not available.

**Acute dermal toxicity** : Rat  
Dose: > 2 000 mg/kg  
Method: OECD Test Guideline 402Expert judgement

**Acute toxicity (other routes of administration)** : No data is available on the product itself.

**Skin corrosion/irritation**

**Skin irritation** : Species: Rabbit  
No skin irritation  
Method: OECD Test Guideline 404  
Exposure time: 4 h

**Serious eye damage/eye irritation**

**Eye irritation** : Species: Rabbit  
No eye irritation  
Method: OECD Test Guideline 405  
Exposure time: 72 h

**Respiratory or skin sensitisation**

**Sensitisation** : Maximisation Test Guinea pig  
Result: Not sensitizing

**Germ cell mutagenicity**

**Genotoxicity in vitro** : Ames test  
negative

**Genotoxicity in vivo** : Micronucleus test Species: Mouse  
Method: Mutagenicity (micronucleus test)  
negative

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**Carcinogenicity**

Carcinogenicity : No data is available on the product itself.

**Reproductive toxicity**

: No data is available on the product itself.

**Target Organ Systemic Toxicant - Single exposure**

Target Organ Systemic Toxicant - Single exposure : No data is available on the product itself.

**Target Organ Systemic Toxicant - Repeated exposure**

Target Organ Systemic Toxicant - Repeated exposure : Species: Rat, female  
NOAEL: 83 mg/kg  
Method: OECD Test Guideline 407  
Repeated dose (28 days) toxicity (oral)

**Target Organ Systemic Toxicant - Repeated exposure**

**Aspiration hazard**

Aspiration toxicity : No data is available on the product itself.

**Phototoxicity**

Phototoxicity : Phototoxicity Guinea pig  
Result:negative

**Further information**

: no data available

**11.2 Information on other hazards**

**Endocrine disrupting properties**

**Product:**

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**Further information**

**Product:**

Remarks : no data available

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### SECTION 12. Ecological information

#### 12.1 Toxicity

**Product:**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 5,09 mg/l  
Exposure time: 96 h  
Method: DIN 38412  
GLP: no

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 4,03 mg/l  
aquatic invertebrates Exposure time: 48 h  
Method: OECD Test Guideline 202  
GLP: yes

Toxicity to algae/aquatic : EC50 (Desmodesmus subspicatus (green algae)): 22,9 mg/l  
plants Exposure time: 72 h  
Method: DIN 38412  
GLP: no

#### 12.2 Persistence and degradability

**Product:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 74 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301 B  
GLP: yes

#### 12.3 Bioaccumulative potential

no data available

#### 12.4 Mobility in soil

**Product:**

Distribution among : Koc: 625,1, log Koc: 2,8  
environmental compartments

#### 12.5 Results of PBT and vPvB assessment

**Product:**

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

#### 12.6 Endocrine disrupting properties

**Product:**

Assessment : The substance/mixture does not contain components

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considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**12.7 Other adverse effects**

**Product:**

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Toxic to aquatic life with long lasting effects.

**SECTION 13. Disposal considerations**

**13.1 Waste treatment methods**

Product : The product should not be allowed to enter drains, water courses or the soil.

Dispose of in accordance with local regulations.

**SECTION 14. Transport information**

**14.1 UN number**

ADR : UN 3082  
RID : UN 3082  
IMDG : UN 3082  
IATA : UN 3082

**14.2 UN proper shipping name**

ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Beta Ionone)  
RID : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Beta Ionone)  
IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Beta Ionone)  
IATA : Environmentally hazardous substance, liquid, n.o.s.  
(Beta Ionone)

**14.3 Transport hazard class(es)**

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**ADR** : 9  
**RID** : 9  
**IMDG** : 9  
**IATA** : 9

### 14.4 Packing group

**ADR** : III  
**RID** : III  
**IMDG** : III  
**IATA** : III

### 14.5 Environmental hazards

**ADR**  
Environmentally hazardous : yes  
**RID**  
Environmentally hazardous : yes  
**IMDG**  
Marine pollutant : yes  
**IATA (Passenger)**  
Environmentally hazardous : yes  
**IATA (Cargo)**  
Environmentally hazardous : yes

### 14.6 Special precautions for user

**ADR**  
Tunnel restriction code : (-)  
**IMDG**  
IMDG Code Segregation : None  
Group

### 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

## SECTION 15. Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59) : Neither banned nor restricted

Major Accident Hazard : ENVIRONMENTAL HAZARDS

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Legislation

E2

Quantity 1: 200 t

Quantity 2: 500 t

Water hazard class  
(Germany): WGK 2 obviously hazardous to water  
Code Number: 3 516  
Classification according to AwSV, Annex 1 (4)**15.2 Chemical safety assessment**

A Chemical Safety Assessment is not required for this substance.

**SECTION 16. Other information****Full text of H-Statements referred to under sections 2 and 3.**

H411

Toxic to aquatic life with long lasting effects.

**Full list of Emergency response numbers worldwide.**

	Country	Phone nr		Country	Phone nr
Europe	All Europe	+44 1235 239670	APAC	All East/South East Asia	+65 3158 1074
	France	+33 1 72 11 00 03		Sri Lanka	+65 3158 1195
	Germany	+49 89 220 61012		Taiwan	+886 2 8793 3212
	Spain	+34 91 114 2520		Japan	+81 3 4578 9341
	Italy	+39 02 3604 2884		Indonesia	007 803 011 0293
	Netherlands	+31 10 713 8195		Malaysia	+60 3 6207 4347
	Turkey	+90 212 375 5231		Thailand	001 800 120 666 751
	Norway	+47 2103 4452		India	+65 3158 1198 000 800 100 7479
	Greece	+30 21 1198 3182		Pakistan	+65 3158 1329
	Portugal	+351 30880 4750		Bangladesh	+65 3158 1200
	Denmark	+45 8988 2286		Philippines	+63 2 8231 2149
	Sweden	+46 8 566 42573		Vietnam	+84 28 4458 2388
	Poland	+48 22 307 3690		Korea	+65 3158 1285
	Czech republic	+420 228 882 830		South Korea	+82 2 3479 8401
	Finland	+358 9 7479 0199		Australia	+61 2 8014 4558
Middle East/Africa	All Middle East/Africa	+44 1235 239671	LATAM	New Zealand	+64 9 929 1483
	Bahrain and Middle East	+44 1235 239671		China	+86 532 8388 9090
	Africa/South Africa	+27 21 300 2732		Mexico	+52 55 5004 8763

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NOAM	USA and Canada	+1 866 928 0789		Brazil	+55 11 3197 5891
	USA and Canada	+1 215 207 0061		Chile	+56 2 2582 9336
	USA and Canada	+1 202 464 2554		Colombia	+57 1 508 7337
Global	Global	+44 1865 407333		Argentina	+54 11 5984 3690

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### Key or legend to abbreviations and acronyms used in the safety data sheet

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AIIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

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.

Information displayed in section 3 (Composition/information on ingredients) is additional information to understand the hazards of the product and ensure safe handling, storage and transportation. This information, including CAS numbers, is not meant to be used for registration, notification or any other purposes. Any additional information and documentation needed may be provided by Givaudan.

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