

# Kao Corporation S.A.

Member of KAO CHEMICALS EUROPE

## SAFETY DATA SHEET



Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2015/830

### BOISAMBRENE FORTE

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

##### 1.1 Product identifier

**Product name** : BOISAMBRENE FORTE

**Chemical name** : (ethoxymethoxy)cyclododecane

**REACH Registration number** : 01-2119971571-34-0001

**Product code** : 303038 / /F ACH

**Version** : 7.07

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

###### Identified uses

Manufacture of substance  
Consumer use of Fragrance. End-use of chemical products: Cosmetics.  
Formulation of Fragrance.  
Formulation of Fragrance. ( End-use of chemical products )  
Industrial use of Fragrance. End-use of chemical products  
Professional use of Fragrance. End-use of chemical products  
Consumer use of Fragrance. End-use of chemical products: Cleaning Products  
Consumer use of Fragrance. End-use of chemical products: Air care products (aerosol) and Air care products (non-aerosol)  
Consumer use of Fragrance. End-use of chemical products: Biocide.  
Consumer use of Fragrance. End-use of chemical products: Polishing and Wax

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

**Supplier** : Kao Corporation, S.A.  
Puig dels Tudons, 10 - 08210 BARBERÀ DEL VALLÈS (Barcelona) - SPAIN  
Telf. +34 937399 300. Fax +34 937399 333

**E-mail:** : [psr@kao.es](mailto:psr@kao.es)

##### 1.4 Emergency telephone number

**Emergency telephone number ( 24h )** : +34 93 739 9445 [Multi-language](#)

For ALL TRANSPORT ACCIDENTS related with USA, call CHEMTREC at 800-424-9300 or 703-527-3887 for international collect calls.

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : Mono-constituent substance

#### Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

H315 SKIN CORROSION/IRRITATION - Category 2

H317 SKIN SENSITIZATION - Category 1B

H411 AQUATIC HAZARD (LONG-TERM) - Category 2

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

**Hazard pictograms** :



**Signal word** : Warning

**Hazard statements** : Causes skin irritation.  
May cause an allergic skin reaction.  
Toxic to aquatic life with long lasting effects.

#### Precautionary statements

**Prevention** : Wear protective gloves. Avoid release to the environment. Avoid breathing vapor.

**Response** : IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs:  
Get medical attention.

**Storage** : Not applicable.

**Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Hazardous ingredients** : (ethoxymethoxy)cyclododecane

**Supplemental label elements** : Not applicable.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.

### 2.3 Other hazards

**Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII** : No.

**Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII** : No.

**Other hazards which do not result in classification** : None known.

## SECTION 3: Composition/information on ingredients

**3.1 Substances** : Mono-constituent substance

Product/ingredient name	Identifiers	%	Classification Regulation (EC) No. 1272/2008 [CLP]	Type
ethoxymethoxycyclododecane	REACH #: 01-2119971571-34 EC: 261-332-1 CAS: 58567-11-6	25 - 100	Skin Irrit. 2, H315 Skin Sens. 1B, H317 Aquatic Chronic 2, H411  See Section 16 for the full text of the H statements declared above.	[A]

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

### Type

[A] Constituent

[B] Impurity

[C] Stabilizing additive

Occupational exposure limits, if available, are listed in Section 8.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

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

##### Over-exposure signs/symptoms

**Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness

**Inhalation** : No specific data.

**Skin contact** : Adverse symptoms may include the following:  
irritation  
redness

**Ingestion** : No specific data.

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

**Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments** : No specific treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : None known.

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

**Hazards from the substance or mixture** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Hazardous combustion products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide

### 5.3 Advice for firefighters

**Special precautions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

## SECTION 6: Accidental release measures

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

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

### 6.2 Environmental precautions

- : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

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

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

### 6.4 Reference to other sections

- : See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

## 7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

### Seveso Directive - Reporting thresholds (in tonnes)

#### Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
E2: Hazardous to the aquatic environment - Chronic 2	200	500

## 7.3 Specific end use(s)

**Recommendations** : Not available.

**Industrial sector specific solutions** : Not available.

## SECTION 8: Exposure controls/personal protection

The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 8.1 Control parameters

#### Occupational exposure limits

Product/ingredient name	Exposure limit values
<b>Europe</b> No exposure limit value known.	
<b>Germany</b> No exposure limit value known.	
<b>Spain</b> No exposure limit value known.	

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

#### DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
Ethoxymethoxy)cyclododecane	DNEL	Long term Inhalation	23,5 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Dermal	3,3 mg/kg	Workers	Systemic
	DNEL	Long term Inhalation	5,8 mg/m <sup>3</sup>	Consumers	Systemic
	DNEL	Long term Dermal	1,67 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Oral	1,67 mg/kg bw/day	Consumers	Systemic

### PNECs

Product/ingredient name	Compartment Detail	Value	Method Detail
Ethoxymethoxy)cyclododecane	Fresh water	0,0016 mg/l	Assessment Factors
	Marine water	0,00016 mg/l	Assessment Factors
	Sewage Treatment Plant	100 mg/l	Assessment Factors

## 8.2 Exposure controls

**Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

### Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

### Skin protection

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

**Remark** : The penetration-time of the recommended gloves depends not only on the material. Also other factors may have influence on the penetration-time, as their thickness or the specific use or conditions (temperature). In any case, certificate materials (for example following EN 374) should be selected. Please ask your supplier, if the gloves are suitable for the intended use.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

<b>Physical state</b>	: Liquid.
<b>Color</b>	: Colorless.
<b>Odor</b>	: Woody., Amber.
<b>Odor threshold</b>	: Not available.
<b>pH</b>	: Not available.
<b>Melting point</b>	: <-20 °C
<b>Initial boiling point and boiling range</b>	: 290,1°C
<b>Flash point</b>	: Closed cup: 136°C [MINIFLASH FLP]
<b>Evaporation rate</b>	: Not available.
<b>Flammability (solid, gas)</b>	: Not available.
<b>Upper/lower flammability or explosive limits</b>	: Not available.
<b>Vapor pressure</b>	: 0,0003 kPa [room temperature]
<b>Vapor density</b>	: Not available.
<b>Density</b>	: Not available.
<b>Specific gravity</b>	: 0.9336 (20/20)
<b>Solubility(ies)</b>	: Very slightly soluble in the following materials: cold water.
<b>Partition coefficient: n-octanol/ water</b>	: 5,4
<b>Auto-ignition temperature</b>	: 230°C
<b>Decomposition temperature</b>	: Not available.
<b>Viscosity ( Dynamic )</b>	: 8.26 cP
<b>Explosive properties</b>	: Not available.
<b>Oxidizing properties</b>	: Not available.

### 9.2 Other information

**Solubility in water** : 0,00112 g/l

No additional information.

## SECTION 10: Stability and reactivity

<b>10.1 Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	: The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.



- 10.4 Conditions to avoid** : No specific data.
- 10.5 Incompatible materials** : No specific data.
- 10.6 Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose
(ethoxymethoxy)cyclododecane	LD50 Dermal	Rabbit - Male, Female	>5000 mg/kg
	LD50 Oral	Rat - Male	>5000 mg/kg

**Conclusion/Summary** : Based on available data, the classification criteria are not met.

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score
(ethoxymethoxy)cyclododecane	Eyes - Cornea opacity	Rabbit	0

#### Conclusion/Summary

- Skin** : Irritating to skin.
- Eyes** : Non-irritating to the eyes.
- Respiratory** : Not available.

#### Sensitizer

#### Conclusion/Summary

- Skin** : Skin sensitizer
- Respiratory** : Not available.

#### Mutagenicity

Product/ingredient name	Test	Experiment	Result
(ethoxymethoxy)cyclododecane	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria	Negative
	OECD 476 <i>In vitro</i> Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammalian-Animal	Negative

**Conclusion/Summary** : No mutagenic effect.

#### Carcinogenicity

**Conclusion/Summary** : Not available.

#### Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Developmental toxin	Species	Dose	Exposure
(ethoxymethoxy)cyclododecane	-	Negative	-	Rat	Oral	-

**Conclusion/Summary** : Based on available data, the classification criteria are not met.

#### Teratogenicity

**Conclusion/Summary** : Not available.

#### Specific target organ toxicity (single exposure)

#### Specific target organ toxicity (repeated exposure)

#### Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.  
**Inhalation** : No known significant effects or critical hazards.  
**Skin contact** : Causes skin irritation. May cause an allergic skin reaction.  
**Ingestion** : No known significant effects or critical hazards.

#### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:  
 pain or irritation  
 watering  
 redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:  
 irritation  
 redness
- Ingestion** : No specific data.

#### Delayed and immediate effects and also chronic effects from short and long term exposure

##### Short term exposure

- Potential immediate effects** : Not available.  
**Potential delayed effects** : Not available.

##### Long term exposure

- Potential immediate effects** : Not available.  
**Potential delayed effects** : Not available.

#### Potential chronic health effects

Product/ingredient name	Result	Species	Dose	Exposure
(ethoxymethoxy) cyclododecane	Sub-acute NOAEL Oral	Rat - Male	50 mg/kg	-
	Sub-acute NOAEL Oral	Rat - Female	1000 mg/kg	-

- Conclusion/Summary** : Not available.
- General** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- Carcinogenicity** : No known significant effects or critical hazards.  
**Mutagenicity** : No known significant effects or critical hazards.  
**Teratogenicity** : No known significant effects or critical hazards.  
**Developmental effects** : No known significant effects or critical hazards.  
**Fertility effects** : No known significant effects or critical hazards.

- Other information** : Not available.

## **SECTION 12: Ecological information**

### **12.1 Toxicity**

Product/ingredient name	Result	Species	Exposure	Test
tethoxymethoxy)cyclododecane	Acute EC50 53 mg/l	Algae	96 hours	OECD 201 Alga, Growth Inhibition Test
	Acute EC50 1,6 mg/l	Daphnia	48 hours	OECD 202 <i>Daphnia</i> sp. Acute Immobilization Test and Reproduction Test
	Acute LC50 1,9 mg/l	Fish	96 hours	OECD 203 Fish, Acute Toxicity Test

**Conclusion/Summary** : Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

## 12.2 Persistence and degradability

Product/ingredient name	Test	Result
tethoxymethoxy)cyclododecane	OECD 301B Ready Biodegradability - CO <sub>2</sub> Evolution Test	5 % - Not readily - 28 days

**Conclusion/Summary** : Not readily biodegradable (according to OECD criteria).

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
tethoxymethoxy)cyclododecane	-	-	Not readily

## 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
tethoxymethoxy)cyclododecane	5,4	-	high

## 12.4 Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Mobility** : Not available.

## 12.5 Results of PBT and vPvB assessment

**PBT** : No.

**vPvB** : No.

**12.6 Other adverse effects** : No known significant effects or critical hazards.

## SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 13.1 Waste treatment methods

#### Product

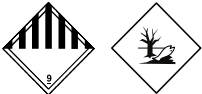
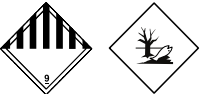

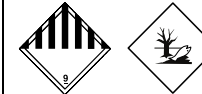
**Methods of disposal** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

**Hazardous waste** : The classification of the product may meet the criteria for a hazardous waste.

**Packaging**

- Methods of disposal** : The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
- Special precautions** : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**SECTION 14: Transport information**

	ADR/RID	ADN	IMDG	IATA
<b>14.1 UN number</b>	UN3082	UN3082	UN3082	UN3082
<b>14.2 UN proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ( (ethoxymethoxy) cyclododecane)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ( (ethoxymethoxy) cyclododecane)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ( (ethoxymethoxy) cyclododecane). Marine pollutant ( (ethoxymethoxy) cyclododecane)	Environmentally hazardous substance, liquid, n.o.s. ( (ethoxymethoxy) cyclododecane)
<b>14.3 Transport hazard class(es)</b>	9 	9 	9 	9 
<b>14.4 Packing group</b>	III	III	III	III
<b>14.5 Environmental hazards</b>	Yes.	Yes.	Yes.	Yes.
<b>Additional information</b>	<p>This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.</p> <p><b>Hazard identification number</b> 90</p> <p><b>Limited quantity</b> 5 L</p> <p><b>Special provisions</b> 274, 335, 601, 375</p> <p><b>Tunnel code</b> (-)</p>		<p>This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.</p> <p><b>Emergency schedules (EmS)</b> F-A, S-F</p> <p><b>Special provisions</b> 274, 335, 969</p> <p><b>Remarks</b> See flow chart supplement IMDG Code</p>	<p>This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.</p> <p><b>Passenger and Cargo Aircraft</b> Quantity limitation: 450 L Packaging instructions: 964</p> <p><b>Cargo Aircraft Only</b> Quantity limitation: 450 L Packaging instructions: 964</p> <p><b>Limited Quantities -</b></p>

	<p><b>Remarks</b> Packaging suitable for liquids.</p> <p><b>ADR/RID Classification Code</b> M6</p>		<p><b>Passenger Aircraft</b> Quantity limitation: 30 kg Packaging instructions: Y964</p> <p><b>Special provisions</b> A97, A158, A197</p>
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**14.6 Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code** : Not available.

## SECTION 15: Regulatory information

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

#### EU Regulation (EC) No. 1907/2006 (REACH)

##### Annex XIV - List of substances subject to authorization

###### Annex XIV

None of the components are listed.

###### Substances of very high concern

None of the components are listed.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.

#### Other EU regulations

##### Seveso Directive

This product is controlled under the Seveso Directive.

##### Danger criteria

###### Category

E2: Hazardous to the aquatic environment - Chronic 2

##### National regulations

###### Germany

**Hazard class for water** : 1 Appendix No. 3

**International regulations****Registration status** :

This refers to country inventory status or Kao notifications to specific country inventories. Some countries may have additional importation requirements.

Australia - (AICS)  
 China - (IECSC)  
 Canada (DSL)  
 European Union - (EINECS or ELINCS)  
 Republic of Korea - (KECI)  
 Philippines - (PICCS)  
 United States - (TSCA)  
 New Zealand - (NZIoC)  
 Taiwan - (CSNN)  
 Japan - (ISHL)

**15.2 Chemical Safety Assessment** : Complete.

**SECTION 16: Other information**

✔ Indicates information that has changed from previously issued version.

**Abbreviations and acronyms** : ATE = Acute Toxicity Estimate  
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]  
 DMEL = Derived Minimal Effect Level  
 DNEL = Derived No Effect Level  
 EUH statement = CLP-specific Hazard statement  
 PBT = Persistent, Bioaccumulative and Toxic  
 PNEC = Predicted No Effect Concentration  
 RRN = REACH Registration Number  
 vPvB = Very Persistent and Very Bioaccumulative

**Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**

Classification	Justification
Skin Irrit. 2, H315 Skin Sens. 1B, H317 Aquatic Chronic 2, H411	Expert judgment Expert judgment Expert judgment

**Full text of abbreviated H statements**

H315 H317 H411	Causes skin irritation. May cause an allergic skin reaction. Toxic to aquatic life with long lasting effects.
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**Full text of classifications [CLP/GHS]**

Aquatic Chronic 2, H411 Skin Irrit. 2, H315 Skin Sens. 1B, H317	AQUATIC HAZARD (LONG-TERM) - Category 2 SKIN CORROSION/IRRITATION - Category 2 SKIN SENSITIZATION - Category 1B
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**Notice to reader**

***The information in this SDS is based on the present state of our knowledge and on current laws. It is always the responsibility of the user to take all necessary steps to fulfill the demands set out in the local rules and legislation. The information in this SDS is meant to be a description of the safety requirements for our product. It is not to be considered a guarantee of the product's properties.***

## Annex to the extended Safety Data Sheet (eSDS)

Consumer

### Identification of the substance or mixture

**Product definition** : Mono-constituent substance  
**Code** : 303038  
**Product name** : BOISAMBRENE FORTE

### Section 1 - Title

**Short title of the exposure scenario** : Boisambrene Forte ES10  
**List of use descriptors** : **Identified use name:** Consumer use of Fragrance. End-use of chemical products: Cosmetics.  
**Substance supplied to that use in form of:** In a mixture  
**Sector of end use:** SU21  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC08a, ERC08d  
**Market sector by type of chemical product:** PC39  
**Article category related to subsequent service life:** Not applicable.

### Section 2 - Exposure controls

**Contributing scenario controlling environmental exposure for 0:**  
**Amounts used** :  $\leq 0.000006535$ tonne/day(s)  
Regional use tonnage (Scales.): 10%  
**Other conditions affecting environmental exposure** : Release to soil from process 20%  
Release to air from process 100%  
Release to waste water from process 100%  
**Conditions and measures related to sewage treatment plant** : Municipal Sewage Treatment Plant  
Assumed on-site sewage treatment plant flow > 18000 m<sup>3</sup>/d

**Contributing scenario controlling consumer exposure for 0:**  
Conditions: Not applicable.  
**Conditions and measures related to personal protection and hygiene**

### Section 3 - Exposure estimation and reference to its source

**Website:** : Not applicable.

**Exposure estimation and reference to its source - Environment: 0:**  
**Exposure assessment (environment):** : IFRA Guidance  
**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : For further information please contact with psr@kao.es



**Exposure estimation and reference to its source - Consumers: 1:**

**Exposure assessment (human):** : Not determined

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : For further information please contact with psr@kao.es

**Section 4 - GUIDANCE TO DU TO EVALUATE WHETHER HE WORKS INSIDE THE BOUNDARIES SET BY THE ES**

**Environment** : Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.[DSU2]  
Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.[DSU3] If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. [DSU8]

**Health** : Not available.

**Additional good practice advice beyond the REACH CSA**

**Environment** : Not available.

**Health** : Not available.

## Annex to the extended Safety Data Sheet (eSDS)

Consumer

### Identification of the substance or mixture

**Product definition** : Mono-constituent substance  
**Code** : 303038  
**Product name** : BOISAMBRENE FORTE

### Section 1 - Title

**Short title of the exposure scenario** : Boisambrene Forte ES6  
**List of use descriptors** : **Identified use name:** Consumer use of Fragrance. End-use of chemical products: Cleaning Products  
**Substance supplied to that use in form of:** In a mixture  
**Sector of end use:** SU21  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC08d, ERC08a  
**Market sector by type of chemical product:** PC35  
**Article category related to subsequent service life:** Not applicable.

### Section 2 - Exposure controls

#### Contributing scenario controlling environmental exposure for 0:

**Amounts used** :  $\leq 0.000004932$  tonne/day(s)  
Regional use tonnage (Scales.): 10%  
**Other conditions affecting environmental exposure** : Release to soil from process 0%  
Release to air from process 0%  
Release to waste water from process 100%  
**Conditions and measures related to sewage treatment plant** : Municipal Sewage Treatment Plant  
Assumed on-site sewage treatment plant flow > 18000 m<sup>3</sup>/d

#### Contributing scenario controlling consumer exposure for 0:

PC 35(1): Laundry and dish-washing products (liquid and Solid Product)  
PC 35(2): Cleaning Products (liquid)  
PC 35(3): Cleaning Products (Spray)  
**Concentration of substance in mixture or article** : PC 35(1): 0.001 g/g  
PC 35(2): 0.003 g/g  
PC 35(3): 0.002 g/g  
**Amounts used** : PC 35(1): 50 g/event  
PC 35(2): 250 g/event  
PC 35(3): 35 g/event

#### Conditions and measures related to personal protection and hygiene

### Section 3 - Exposure estimation and reference to its source

**Website:** : Not applicable.

**Exposure estimation and reference to its source - Environment: 1:**

**Exposure assessment (environment):** : IFRA Guidance

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : For further information please contact with psr@kao.es

**Exposure estimation and reference to its source - Consumers: 0:**

**Exposure assessment (human):** : TRA Consumer v3

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : For further information please contact with psr@kao.es

**Section 4 - GUIDANCE TO DU TO EVALUATE WHETHER HE WORKS INSIDE THE BOUNDARIES SET BY THE ES**

<b>Environment</b>	: Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.[DSU2] Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.[DSU3] If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. [DSU8]
<b>Health</b>	: Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. [G22] Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23] Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.[DSU1]

**Additional good practice advice beyond the REACH CSA**

<b>Environment</b>	: Not available.
<b>Health</b>	: Not available.

## Annex to the extended Safety Data Sheet (eSDS)

Consumer

### Identification of the substance or mixture

**Product definition** : Mono-constituent substance  
**Code** : 303038  
**Product name** : BOISAMBRENE FORTE

### Section 1 - Title

**Short title of the exposure scenario** : Boisambrene Forte ES7

**List of use descriptors** : **Identified use name:** Consumer use of Fragrance. End-use of chemical products: Air care products (aerosol) and Air care products (non-aerosol)  
**Substance supplied to that use in form of:** In a mixture  
**Sector of end use:** SU21  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC08a, ERC08d  
**Market sector by type of chemical product:** PC03  
**Article category related to subsequent service life:** Not applicable.

### Section 2 - Exposure controls

#### Contributing scenario controlling environmental exposure for 0:

**Amounts used** :  $\leq 0.0000009863$  tonne/day(s)  
Regional use tonnage (Scales.): 10%

**Other conditions affecting environmental exposure** : Release to soil from process 0%  
Release to air from process 100%  
Release to waste water from process 0%

**Conditions and measures related to sewage treatment plant** : Municipal Sewage Treatment Plant  
Assumed on-site sewage treatment plant flow > 18000 m<sup>3</sup>/d

#### Contributing scenario controlling consumer exposure for 0:

PC 3(1): Air care products (aerosol)  
PC 3(2): Air care products (non-aerosol)

**Concentration of substance in mixture or article** : PC 3(1): 0.002 g/g  
PC 3(2): 0.05 g/g

**Amounts used** : PC 3(1): 10 g/event  
PC 3(2): 50 g/event

**Conditions and measures related to personal protection and hygiene**

### Section 3 - Exposure estimation and reference to its source

**Website:** : Not applicable.

**Exposure estimation and reference to its source - Environment: 1:**

**Exposure assessment (environment):** : IFRA Guidance

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : For further information please contact with psr@kao.es

**Exposure estimation and reference to its source - Consumers: 0:**

**Exposure assessment (human):** : TRA Consumer v3

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : For further information please contact with psr@kao.es

**Section 4 - GUIDANCE TO DU TO EVALUATE WHETHER HE WORKS INSIDE THE BOUNDARIES SET BY THE ES**

<b>Environment</b>	: Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.[DSU2] Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.[DSU3] If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. [DSU8]
<b>Health</b>	: Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. [G22] Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23] Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.[DSU1]

**Additional good practice advice beyond the REACH CSA**

<b>Environment</b>	: Not available.
<b>Health</b>	: Not available.

## Annex to the extended Safety Data Sheet (eSDS)

Consumer

### Identification of the substance or mixture

**Product definition** : Mono-constituent substance  
**Code** : 303038  
**Product name** : BOISAMBRENE FORTE

### Section 1 - Title

**Short title of the exposure scenario** : Boisambrene Forte ES8  
**List of use descriptors** : **Identified use name:** Consumer use of Fragrance. End-use of chemical products: Biocide.  
**Substance supplied to that use in form of:** In a mixture  
**Sector of end use:** SU21  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC08a, ERC08d  
**Market sector by type of chemical product:** PC08  
**Article category related to subsequent service life:** Not applicable.

### Section 2 - Exposure controls

#### Contributing scenario controlling environmental exposure for 0:

**Amounts used** :  $\leq 0.00000009863$  tonne/day(s)  
Regional use tonnage (Scales.): 10%  
**Other conditions affecting environmental exposure** : Release to soil from process 0%  
Release to air from process 0%  
Release to waste water from process 100%  
**Conditions and measures related to sewage treatment plant** : Municipal Sewage Treatment Plant  
Assumed on-site sewage treatment plant flow > 18000 m<sup>3</sup>/d

#### Contributing scenario controlling consumer exposure for 0:

PC 8(1): Spray Application(s) (Conditions: Not determined)  
PC 8(2): heat Machine  
PC 8(3): Insect repellents  
**Concentration of substance in mixture or article** : PC 8(2): 0.01 g/g  
PC 8(3): 0.008 g/g  
**Amounts used** : PC 8(2): 50 g/event  
PC 8(3): 1.5 g/event  
**Conditions and measures related to personal protection and hygiene**

### Section 3 - Exposure estimation and reference to its source

**Website:** : Not applicable.

**Exposure estimation and reference to its source - Environment: 1:**

**Exposure assessment (environment):** : IFRA Guidance

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : For further information please contact with psr@kao.es

**Exposure estimation and reference to its source - Consumers: 0:**

**Exposure assessment (human):** : TRA Consumer v3

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : For further information please contact with psr@kao.es

**Section 4 - GUIDANCE TO DU TO EVALUATE WHETHER HE WORKS INSIDE THE BOUNDARIES SET BY THE ES**

<b>Environment</b>	: Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.[DSU2] Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.[DSU3] If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. [DSU8]
<b>Health</b>	: Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. [G22] Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23] Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.[DSU1]

**Additional good practice advice beyond the REACH CSA**

<b>Environment</b>	: Not available.
<b>Health</b>	: Not available.

## Annex to the extended Safety Data Sheet (eSDS)

Consumer

### Identification of the substance or mixture

**Product definition** : Mono-constituent substance  
**Code** : 303038  
**Product name** : BOISAMBRENE FORTE

### Section 1 - Title

**Short title of the exposure scenario** : Boisambrene Forte ES9  
**List of use descriptors** : **Identified use name:** Consumer use of Fragrance. End-use of chemical products: Polishing and Wax  
**Substance supplied to that use in form of:** In a mixture  
**Sector of end use:** SU21  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC08a, ERC08d  
**Market sector by type of chemical product:** PC31  
**Article category related to subsequent service life:** Not applicable.

### Section 2 - Exposure controls

#### Contributing scenario controlling environmental exposure for 0:

**Amounts used** : ≤ 0.00000009863 tonne/day(s)  
Regional use tonnage (Scales.): 10%  
**Other conditions affecting environmental exposure** : Release to soil from process 20%  
Release to air from process 100%  
Release to waste water from process 100%  
**Conditions and measures related to sewage treatment plant** : Municipal Sewage Treatment Plant  
Assumed on-site sewage treatment plant flow > 18000 m<sup>3</sup>/d

#### Contributing scenario controlling consumer exposure for 0:

PC 31(1): Polishing and Wax  
PC 31(2): Polishing and Wax by spray application  
**Concentration of substance in mixture or article** : PC 31(1): 0.001 g/g  
PC 31(2): 0.001 g/g  
**Amounts used** : PC 31(1): 550 g/event  
PC 31(2): 135 g/event  
**Conditions and measures related to personal protection and hygiene**

### Section 3 - Exposure estimation and reference to its source

**Website:** : Not applicable.

#### Exposure estimation and reference to its source - Environment: 0:

**Exposure assessment (environment):** : IFRA Guidance  
**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : For further information please contact with psr@kao.es



**Exposure estimation and reference to its source - Consumers: 1:**

**Exposure assessment (human):** : TRA Consumer v3

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : For further information please contact with psr@kao.es

**Section 4 - GUIDANCE TO DU TO EVALUATE WHETHER HE WORKS INSIDE THE BOUNDARIES SET BY THE ES**

<b>Environment</b>	: Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.[DSU2] Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.[DSU3] If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. [DSU8]
<b>Health</b>	: Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. [G22] Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23] Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.[DSU1]

**Additional good practice advice beyond the REACH CSA**

<b>Environment</b>	: Not available.
<b>Health</b>	: Not available.

## Annex to the extended Safety Data Sheet (eSDS)

Industrial

### Identification of the substance or mixture

**Product definition** : Mono-constituent substance  
**Code** : 303038  
**Product name** : BOISAMBRENE FORTE

### Section 1 - Title

**Short title of the exposure scenario** : Boisambrene Forte ES1

**List of use descriptors** : **Identified use name:** Manufacture of substance  
**Process Category:** PROC01, PROC03, PROC08b, PROC15  
**Substance supplied to that use in form of:** As such  
**Sector of end use:** SU03  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC01  
**Market sector by type of chemical product:** Not applicable.  
**Article category related to subsequent service life:** Not applicable.

### Section 2 - Exposure controls

#### Contributing scenario controlling environmental exposure for 0:

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100%  
**Amounts used** : Daily amount per site: 0.353 Tonnes/year  
Annual site tonnage: 120 Tonnes/year  
**Other conditions affecting environmental exposure** : Release to soil from process 0%  
Release to air from process 0.1%  
Release to waste water from process 0.01%  
**Conditions and measures related to sewage treatment plant** : Municipal Sewage Treatment Plant  
Assumed on-site sewage treatment plant flow > 24000 m<sup>3</sup>/d

#### Contributing scenario controlling worker exposure for 0:

**Frequency and duration of use** : Duration and frequency of use:  
< 8 hours (PROC 3, PROC 1)  
< 4 hours (PROC 8b)  
< 1 hour (PROC 15)  
**Technical conditions and measures at process level (source) to prevent release** : General ventilation. Provide adequate ventilation. Recommended room ventilation rate for handling/application (air changes per hour): 1-3  
Local exhaust ventilation - efficiency of at least 90% (Inhalation-PROC3), 95% (Inhalation-PROC8b), 0% (Inhalation-PROC15/PROC1)  
**Conditions and measures related to personal protection and hygiene**  
**Personal protection** : Wear suitable gloves tested to EN374. (PROC8b/PROC15)

### Section 3 - Exposure estimation and reference to its source

**Website:** : Not applicable.

**Exposure estimation and reference to its source - Environment: 1:**

**Exposure assessment (environment):** : EUSES

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : For further information please contact with psr@kao.es

**Exposure estimation and reference to its source - Workers: 0:**

**Exposure assessment (human):** : TRA Worker v3

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : For further information please contact with psr@kao.es

## Section 4 - GUIDANCE TO DU TO EVALUATE WHETHER HE WORKS INSIDE THE BOUNDARIES SET BY THE ES

<b>Environment</b>	: Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.[DSU2] Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.[DSU3] If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. [DSU8]
<b>Health</b>	: Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. [G22] Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23] Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.[DSU1]

### Additional good practice advice beyond the REACH CSA

<b>Environment</b>	: Not available.
<b>Health</b>	: Not available.

## Annex to the extended Safety Data Sheet (eSDS)

Industrial

### Identification of the substance or mixture

**Product definition** : Mono-constituent substance  
**Code** : 303038  
**Product name** : BOISAMBRENE FORTE

### Section 1 - Title

**Short title of the exposure scenario** : Boisambrene Forte ES2

**List of use descriptors** : **Identified use name:** Formulation of Fragrance.  
**Process Category:** PROC01, PROC03, PROC05, PROC08a, PROC08b, PROC09, PROC15  
**Substance supplied to that use in form of:** In a mixture, As such  
**Sector of end use:** SU03, SU10  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC02  
**Market sector by type of chemical product:** Not applicable.  
**Article category related to subsequent service life:** Not applicable.

### Section 2 - Exposure controls

#### Contributing scenario controlling environmental exposure for 0:

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100%

**Amounts used** : Daily amount per site: 0.048 Tonnes/year  
Annual site tonnage: 12 Tonnes/year

**Other conditions affecting environmental exposure** : Release to soil from process 0%  
Release to air from process 2.5%  
Release to waste water from process 0.004%

**Conditions and measures related to sewage treatment plant** : Municipal Sewage Treatment Plant  
Assumed on-site sewage treatment plant flow > 18000 m<sup>3</sup>/d

#### Contributing scenario controlling worker exposure for 0:

**Concentration of substance in mixture or article** : 5 - 25 % (PROC8b, PROC9, PROC8a)  
>25% (PROC3, PROC5, PROC15)  
As such (PROC1)

**Frequency and duration of use** : Duration and frequency of use:  
< 1 hours (PROC 8b, PROC 1, PROC 9)  
< 4 hours (PROC 3, PROC 5, PROC 8a)  
< 15 minutes (PROC 15)

**Technical conditions and measures at process level (source) to prevent release** : General ventilation. Provide adequate ventilation. Recommended room ventilation rate for handling/application (air changes per hour): 1-3  
Local exhaust ventilation - efficiency of at least 90% (Inhalation-PROC5, PROC 8a), 0% (Inhalation-PROC 8b, PROC 1, PROC 3, PROC 15, PROC 9)

**Conditions and measures related to personal protection and hygiene**

**Personal protection** : Wear suitable gloves tested to EN374. (PROC8b, PROC5, PROC9, PROC 8a)

### Section 3 - Exposure estimation and reference to its source

<b>Website:</b>	: Not applicable.
<b>Exposure estimation and reference to its source - Environment: 1:</b>	
<b>Exposure assessment (environment):</b>	: EUSES
<b>EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE</b>	: For further information please contact with psr@kao.es
<b>Exposure estimation and reference to its source - Workers: 0:</b>	
<b>Exposure assessment (human):</b>	: TRA Worker v3
<b>EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE</b>	: For further information please contact with psr@kao.es

### Section 4 - GUIDANCE TO DU TO EVALUATE WHETHER HE WORKS INSIDE THE BOUNDARIES SET BY THE ES

<b>Environment</b>	: Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.[DSU2] Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.[DSU3] If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. [DSU8]
<b>Health</b>	: Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. [G22] Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23] Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.[DSU1]

### Additional good practice advice beyond the REACH CSA

<b>Environment</b>	: Not available.
<b>Health</b>	: Not available.

## Annex to the extended Safety Data Sheet (eSDS)

Industrial

### Identification of the substance or mixture

**Product definition** : Mono-constituent substance  
**Code** : 303038  
**Product name** : BOISAMBRENE FORTE

### Section 1 - Title

**Short title of the exposure scenario** : Boisambrene Forte ES3

**List of use descriptors** : **Identified use name:** Formulation of Fragrance. ( End-use of chemical products )  
**Process Category:** PROC08b, PROC15, PROC01, PROC03, PROC05, PROC08a, PROC09, PROC14  
**Substance supplied to that use in form of:** In a mixture  
**Sector of end use:** SU03, SU10  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC02  
**Market sector by type of chemical product:** Not applicable.  
**Article category related to subsequent service life:** Not applicable.

### Section 2 - Exposure controls

#### Contributing scenario controlling environmental exposure for 0:

Table 15.2 of IFRA Guidance

IFRA SG-1: AISE 2.1.a,g

IFRA SG-2: AISE 2.1.b,h

IFRA SG-3: AISE 2.1.c,i

IFRA SG-4: AISE 2.1.j CE / AISE 2.3.a CE 2.1.a

IFRA SG-5: AISE 2.1.k CE / AISE 2.3.b CE 2.1.b

IFRA SG-6: AISE 2.1.l CE / AISE 2.3.c CE 2.1.c

IFRA SG-7: CE 2.2.a-c

IFRA SG-7: CE 2.1.d-j

**Amounts used** : Daily amount per site:  $\leq 0.024$  Tonnes/year and  $\leq 6$  Tonnes/year (SG-1, SG-2, SG-3, SG-4, SG-5, SG-6, SG-7)  
Daily amount per site :  $\leq 0.01$  Tonnes/year and  $\leq 2.4$  Tonnes/year (SG-8)

**Environment factors not influenced by risk management** : Capacity of sewage system: 2000 m<sup>3</sup>/d

**Other conditions affecting environmental exposure** : Flow rate of receiving surface water (m<sup>3</sup>/d): 18000

**Technical conditions and measures at process level (source) to prevent release** : Indoor

**Organizational measures to prevent/limit release from site** : Release to soil from process 0%  
Release to air from process 0%  
Release to waste water from process 0.01% (SG-1, SG-2, SG-3, SG-4, SG-5); 0.008% (SG-6); 0% (SG-7); 0.04% (SG-8)

**Conditions and measures related to sewage treatment plant** : Municipal Sewage Treatment Plant. Treatment effectiveness: 66.32%

**Contributing scenario controlling worker exposure for 0:**

PROC 15: AISE M-9	
PROC 1: AISE M-1	
PROC 3: AISE M-3	
PROC 5: AISE M-5	
PROC 8a: IFRA CS 6	
PROC 14: AISE M-8	
<b>Concentration of substance in mixture or article</b>	: PROC 15, PROC 1, PROC 3, PROC 5: 5-25% PROC 8a, PROC 14: < 1%
<b>Frequency and duration of use</b>	: PROC 15: < 15 min PROC 1: < 1 h PROC 3, PROC 5, PROC 8a: < 4 h PROC 14: < 8 h
<b>Other conditions affecting workers exposure</b>	: Indoor
<b>Technical conditions and measures at process level (source) to prevent release</b>	: General ventilation. Provide adequate ventilation. Recommended room ventilation rate for handling/application (air changes per hour): 1-3 Local exhaust ventilation - efficiency of at least 90% (Inhalation-PROC5)
<b>Conditions and measures related to personal protection and hygiene</b>	
<b>Personal protection</b>	: Wear suitable gloves tested to EN374. (PROC5)

**Section 3 - Exposure estimation and reference to its source**

**Website:** : Not applicable.

**Exposure estimation and reference to its source - Environment: 1:**

**Exposure assessment (environment):** : EUSES

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : For further information please contact with psr@kao.es

**Exposure estimation and reference to its source - Workers: 0:**

**Exposure assessment (human):** : TRA Worker v3

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : For further information please contact with psr@kao.es

**Section 4 - GUIDANCE TO DU TO EVALUATE WHETHER HE WORKS INSIDE THE BOUNDARIES SET BY THE ES**

<b>Environment</b>	: Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.[DSU2] Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.[DSU3] If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. [DSU8]
<b>Health</b>	: Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. [G22] Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23] Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.[DSU1]

**Additional good practice advice beyond the REACH CSA**

**Environment** : Not available.

**Health** : Not available.



## Annex to the extended Safety Data Sheet (eSDS)

Industrial

### Identification of the substance or mixture

**Product definition** : Mono-constituent substance  
**Code** : 303038  
**Product name** : BOISAMBRENE FORTE

### Section 1 - Title

**Short title of the exposure scenario** : Boisambrene Forte ES4

**List of use descriptors** : **Identified use name:** Industrial use of Fragrance. End-use of chemical products  
**Process Category:** PROC01, PROC02, PROC04, PROC07, PROC08b, PROC10, PROC13  
**Substance supplied to that use in form of:** In a mixture  
**Sector of end use:** SU03  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC04  
**Market sector by type of chemical product:** Not applicable.  
**Article category related to subsequent service life:** Not applicable.

### Section 2 - Exposure controls

#### Contributing scenario controlling environmental exposure for 0:

Conditions: IFRA Guidance

#### Contributing scenario controlling worker exposure for 0:

PROC 1: Enclosed, Automatic  
PROC 2: Automatic  
PROC 4 (1): Use in semi-automated and predominantly enclosed filling lines. Indoor  
PROC 4 (2): Use in semi-automated and predominantly enclosed filling lines. Outdoor  
PROC 7 (1): Spraying, Indoor Without local exhaust ventilation  
PROC 7 (2): Spraying, Indoor With local exhaust ventilation  
PROC 7 (3): Spraying, Outdoor  
PROC 7 (4): Spraying, Indoor. Respiratory protection  
PROC 7 (5): Spraying Outdoor. Respiratory protection  
PROC 8b (1): Indoor  
PROC 8b (2): Outdoor  
PROC 10 (1): Indoor  
PROC 10 (2): Outdoor  
PROC 13: Indoor

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 1%.

**Frequency and duration of use** : PROC 1, PROC 2, PROC 4(1), PROC 4(2), PROC 7(2), PROC 7(4), PROC 7(5), PROC 10(1), PROC 10(2), PROC 13: < 8 hours  
PROC 7(1), PROC 7(3), PROC 8b(1), PROC 8b(2): < 1 hour

**Other conditions affecting workers exposure** : PROC 1, PROC 2, PROC 4(1), PROC 7(1), PROC 7(2), PROC 7(4), PROC 8b(1), PROC 10(1), PROC 13: Indoor  
PROC 4(2), PROC 7(3), PROC 7(5), PROC 8b(2), PROC 10(2): Outdoor

**BOISAMBRENE FORTE**

<b>Technical conditions and measures at process level (source) to prevent release</b>	: General ventilation PROC 1, PROC 2, PROC 4(1), PROC 7(1), PROC 7(2), PROC 7(4), PROC 8b(1), PROC 10(1), PROC 13: Provide adequate ventilation. Recommended room ventilation rate for handling/application (air changes per hour): 1-3 Local exhaust ventilation - efficiency of at least 95% (PROC7(2)) and 90% (PROC 13) (Inhalation) PROC 4(2), PROC 7(3), PROC 7(5), PROC 8b(2), PROC 10(2): Without local exhaust ventilation
<b>Conditions and measures related to personal protection and hygiene</b>	
<b>Personal protection</b>	: Dermal: Yes. PROC 7(1), PROC 7(2), PROC 7(3), PROC 7(4), PROC 7(5), PROC 10 (1), PROC 10(2), PROC 13 Efficiency of at least 80% (PROC 7(2), PROC 7(3), PROC 7(4), PROC 7(5)) and 90% (PROC 7(1))
<b>Respiratory protection</b>	: Yes.: PROC 7(4), PROC 7(5) Efficiency of at least 90%

**Section 3 - Exposure estimation and reference to its source**

**Website:** : Not applicable.

**Exposure estimation and reference to its source - Environment: 1:**

<b>Exposure assessment (environment):</b>	: IFRA Guidance
<b>EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE</b>	: For further information please contact with psr@kao.es

**Exposure estimation and reference to its source - Workers: 0:**

<b>Exposure assessment (human):</b>	: TRA Worker v3
<b>EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE</b>	: For further information please contact with psr@kao.es

**Section 4 - GUIDANCE TO DU TO EVALUATE WHETHER HE WORKS INSIDE THE BOUNDARIES SET BY THE ES**

<b>Environment</b>	: Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.[DSU2] Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.[DSU3] If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. [DSU8]
<b>Health</b>	: Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. [G22] Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23] Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.[DSU1]

**Additional good practice advice beyond the REACH CSA**

<b>Environment</b>	: Not available.
<b>Health</b>	: Not available.

## Annex to the extended Safety Data Sheet (eSDS)

Professional

### Identification of the substance or mixture

**Product definition** : Mono-constituent substance  
**Code** : 303038  
**Product name** : BOISAMBRENE FORTE

### Section 1 - Title

**Short title of the exposure scenario** : Boisambrene Forte ES5

**List of use descriptors** : **Identified use name:** Professional use of Fragrance. End-use of chemical products  
**Process Category:** PROC01, PROC02, PROC13, PROC11, PROC10, PROC08a, PROC04  
**Substance supplied to that use in form of:** In a mixture  
**Sector of end use:** SU22  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC08a  
**Market sector by type of chemical product:** Not applicable.  
**Article category related to subsequent service life:** Not applicable.

### Section 2 - Exposure controls

#### Contributing scenario controlling environmental exposure for 0:

Conditions: IFRA Guidance

#### Contributing scenario controlling worker exposure for 0:

PROC 1: Enclosed, Automatic  
PROC 2: Automatic  
PROC 4: Use in semi-automated and predominantly enclosed filling lines.  
PROC 8a (1): Indoor  
PROC 8a (2): Outdoor  
PROC 10 (1): Indoor  
PROC 10 (2): Outdoor  
PROC 11 (1): Indoor  
PROC 11 (2): Outdoor (Conditions: Not determined)  
PROC 13: Treatment by dipping and pouring

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 1%.

**Frequency and duration of use** : PROC 1, PROC 2, PROC 4, PROC 10(1), PROC 10(2), PROC 11(1): < 8 hours  
PROC 8a(1), PROC 8a(2), PROC 13: < 1 hour

**Other conditions affecting workers exposure** : PROC 1, PROC 2, PROC 4, PROC 8a(1), PROC 10(1), PROC 11(1), PROC 13:  
Indoor  
PROC 8a(2), PROC 10(2): Outdoor

**Technical conditions and measures at process level (source) to prevent release** : General ventilation  
PROC 1, PROC 2, PROC 4, PROC 8a(1), PROC 10(1), PROC 10(2), PROC 11(1):  
Provide adequate ventilation. Recommended room ventilation rate for handling/  
application (air changes per hour): 1-3  
Without local exhaust ventilation

**Conditions and measures related to personal protection and hygiene**

### Section 3 - Exposure estimation and reference to its source

<b>Website:</b>	: Not applicable.
<b>Exposure estimation and reference to its source - Environment: 1:</b>	
<b>Exposure assessment (environment):</b>	: IFRA Guidance
<b>EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE</b>	: For further information please contact with psr@kao.es
<b>Exposure estimation and reference to its source - Workers: 0:</b>	
<b>Exposure assessment (human):</b>	: TRA Worker v3
<b>EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE</b>	: For further information please contact with psr@kao.es

### Section 4 - GUIDANCE TO DU TO EVALUATE WHETHER HE WORKS INSIDE THE BOUNDARIES SET BY THE ES

<b>Environment</b>	: Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.[DSU2] Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.[DSU3] If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. [DSU8]
<b>Health</b>	: Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. [G22] Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23] Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.[DSU1]

### Additional good practice advice beyond the REACH CSA

<b>Environment</b>	: Not available.
<b>Health</b>	: Not available.