

# FRAGRANCES & AROMA CHEMICALS





# INDEX

1. Kao Corporation | Overview
2. Kao Chemicals Europe | Who we are?
3. Fragrances & Aroma chemicals
  - Key Data
  - Production sites | Where do we create products?
  - Kao Ranges
    - Commodities
    - Specialties

# KIREI LIFE STYLE PLAN

## Enriching the lives of consumers around the world

Kao believes that the Kirei Lifestyle, our ESG strategy, is the most important factor of all in helping customers achieve sustainable and fulfilling lifestyles. The Kirei Lifestyle Plan is a framework for stepping up innovation in every aspect of our business so that we can generate even more value for people and make further contributions to society.



Making my everyday more beautiful

We will aim to empower all people, at least 1 billion by 2030, to enjoy more beautiful lives — greater, easier aging, better health and cleanliness confidence in self expression



Making thoughtful choices for society

100% of Kao brands will make it easy for people to make small but meaningful choices that, together, will shape a more resilient and compassionate society



Making the world healthier & cleaner

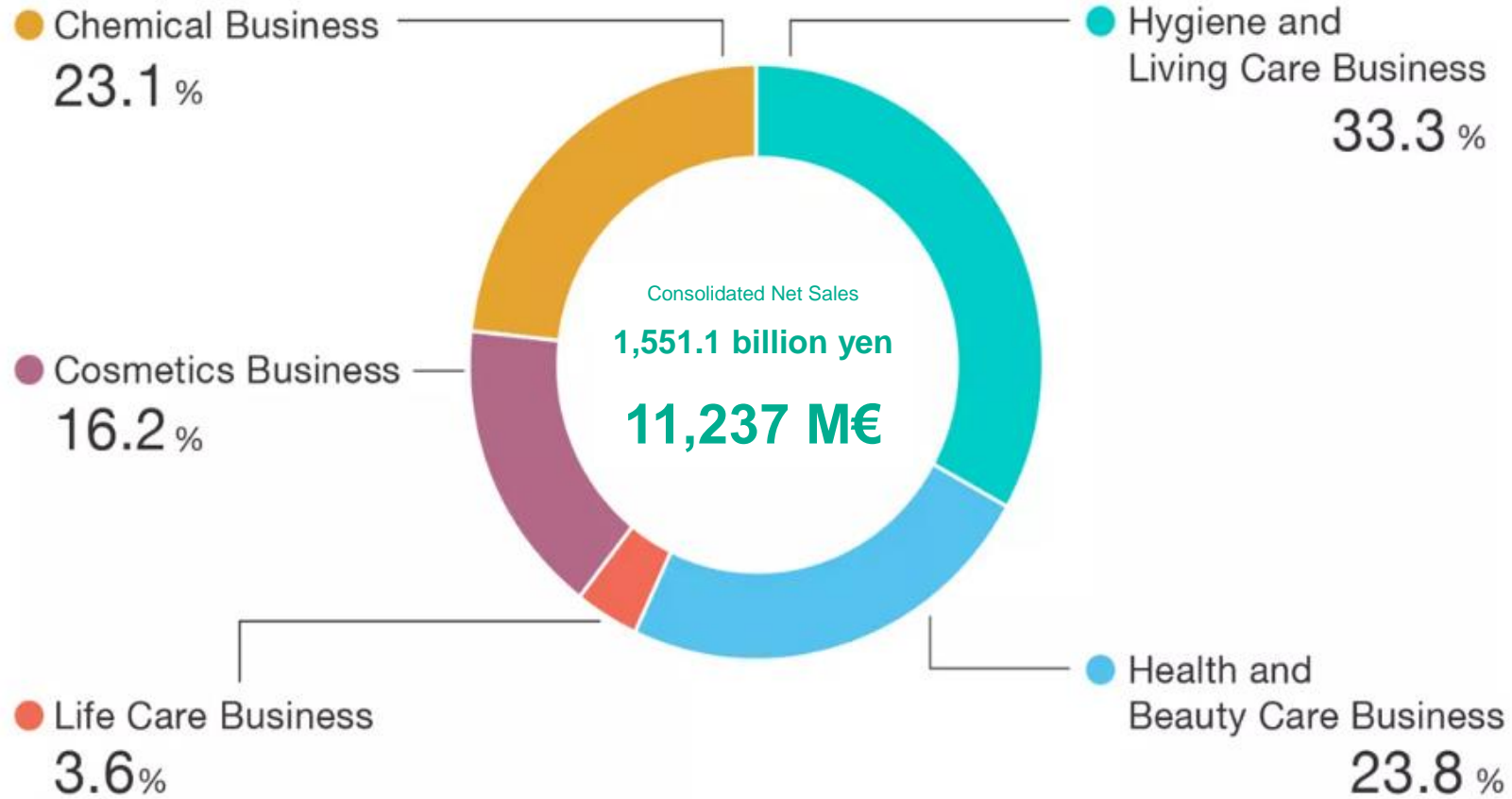
100% of our products will leave a full life cycle environmental footprint that science says our natural world can safely absorb



# OVERVIEW OF KAO'S BUSINESS

## SALES COMPOSITIONS BY SEGMENT

Consolidated Net Sales ( FY2022 )



\* Share of net sales is calculated based on sales to customers.  
Average Exchange rate 138,03 JPY/€



A background image of various laboratory glassware, including Erlenmeyer flasks, a graduated cylinder, and a beaker, all rendered in a light teal color against a white background. The glassware is arranged in a way that creates a sense of depth and scientific precision.

# KAO CHEMICALS EUROPE



# HEADQUARTERS

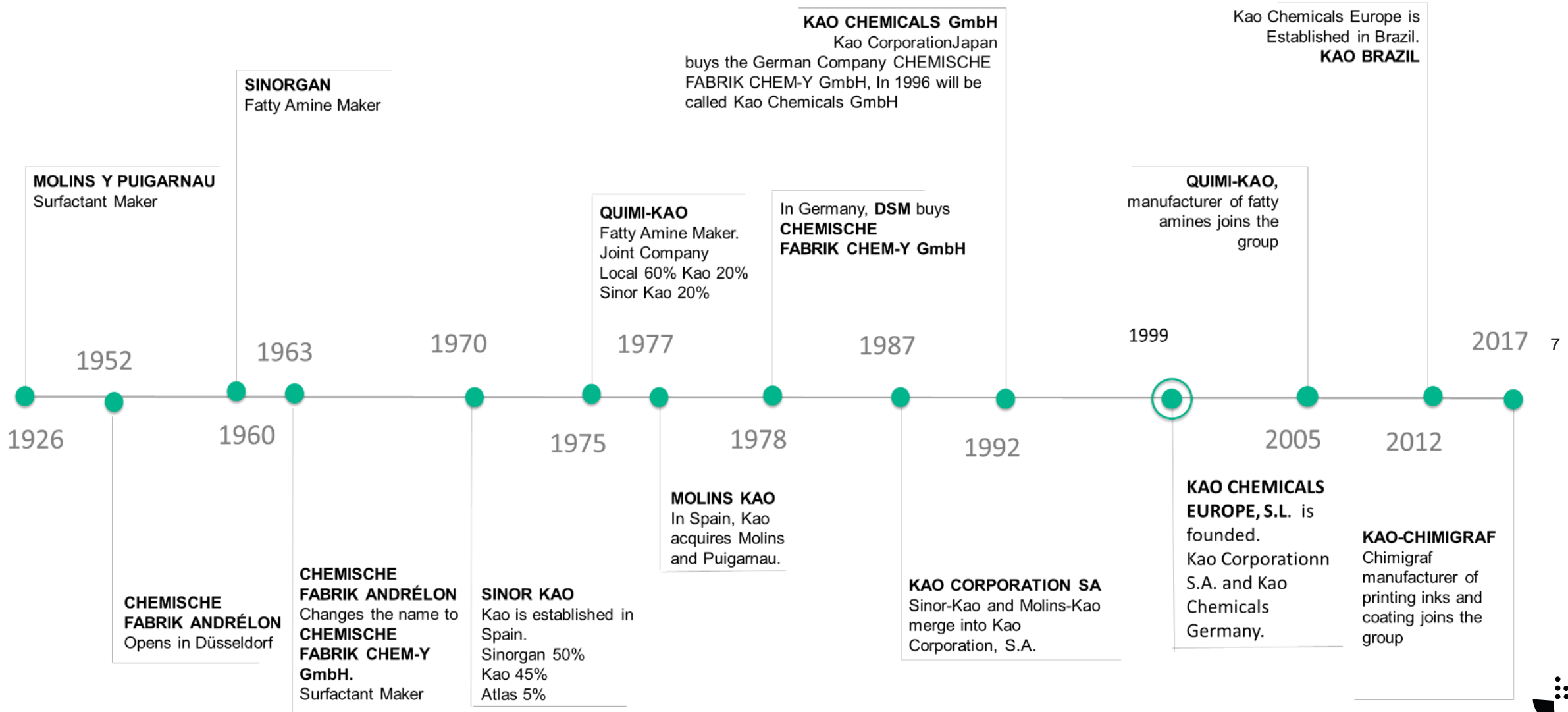
**Kao Chemicals Europe, S.L.**  
**Puig dels Tudons, 10 Pol. Ind. Santiga - 08210**  
**Barberà del Vallès BARCELONA**

Kao Chemicals Europe is a subsidiary of Kao international group. We are a leading manufacturer in the fields of hygiene, beauty and health, while our chemical business contributes to the development of diverse industries. The Chemical Business offers an array of products including oleo chemicals and derivatives, surfactants, high-performance polymers, and fragrances.

Kao Chemicals Europe is committed to taking a responsible approach to the environment and to health and safety throughout the lifecycle of its products.



# HISTORY OF KAO CHEMICALS EUROPE



# KAO CHEMICALS EUROPE

## KEY DATA



### PRODUCTION SITES

**6**

- Spain (4 sites)
- Germany
- Mexico



### SALES OFFICES

**4**

- Brazil
- Germany
- Mexico
- Spain



### EMPLOYEES

**1,106**

- Brazil
- Germany
- Mexico
- Spain



### BUSINESS UNITS

**6**

- Surfactants for consumers applications
- Fragrance & Aroma Chemicals
- Surfactants for technical applications
- Oleo chemicals
- Imaging Materials
- Inks





# BUSINESS UNITS



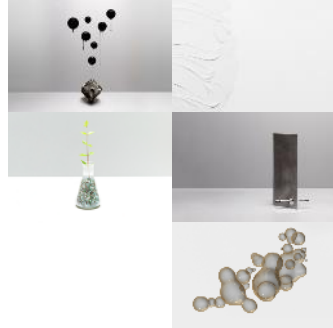
## Surfactants for Consumers Applications

- **Personal Care:**
  - Hair Care
  - Body Care
  - Skin Care
- **Laundry & Cleaning:**
  - Dishwashing
  - Industrial and Institutional cleaning
  - Laundry care
  - Hard Surface care



## Fragrances & Aroma Chemicals

- **Aroma Chemicals:**
  - Ingredient Specialties
- **Aroma Compounding:**
  - Fine Fragrance
  - Home Care
  - Air Care
  - Personal Care
  - Fabric Care



## Surfactants for Technical Applications

- Road additives
- Oil and gas
- Mineral flotation
- Building
- Fertilizers
- Metalworking
- Surfactants miscellaneous
- Coatings



## Oleochemicals

- Fatty alcohols
- Fatty amines



## Imaging Materials

- Polyester-based resins
- Toners for copiers and printers
- Pigment dispersions



## Inks

- **Flexography & Rotogravure:**
  - Water & Solvent-based
  - Primers
  - Concentrated color bases
  - Solid dispersions (chips)
  - Varnishes and additives
- **Inkjet**
  - UV / LED
  - Eco-solvent / Solvent
  - Oil-based
  - Water-based
  - Bio based
  - Low Migration



# FRAGRANCES & AROMA CHEMICALS



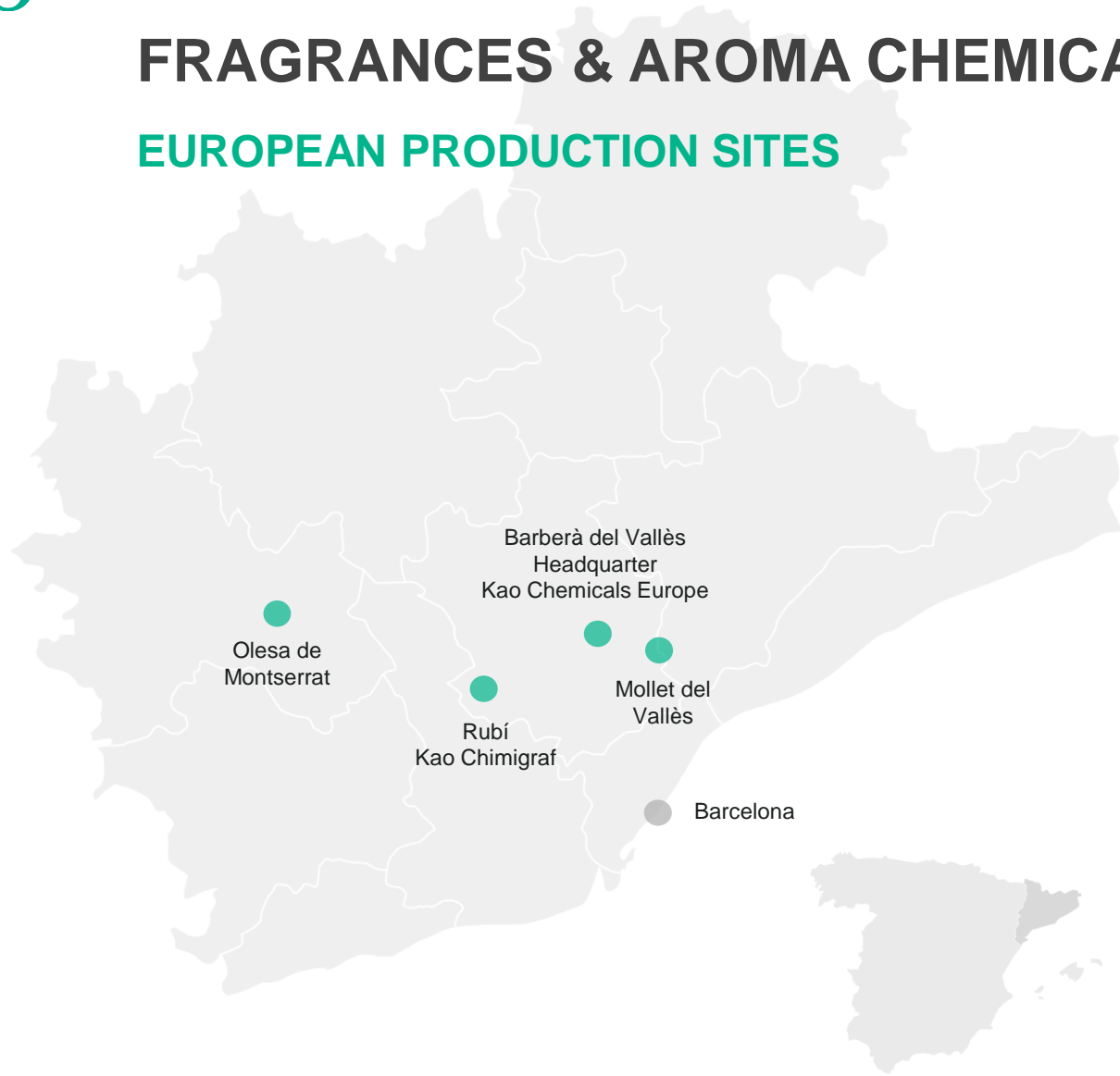
# FRAGRANCES & AROMA CHEMICALS

## GLOBAL PRODUCTION SITES | WHERE DO WE CREATE PRODUCTS



# FRAGRANCES & AROMA CHEMICALS

## EUROPEAN PRODUCTION SITES



### Olesa Plant

- 1974 SURFACTANTS & BLENDS
- 1980 SULFONATION
- 1991 AROMAS COMPOUNDING
- 2001 MDJ & TONER BINDER
- 2005 AMBROXAN & BOISAMBRENE FORTE



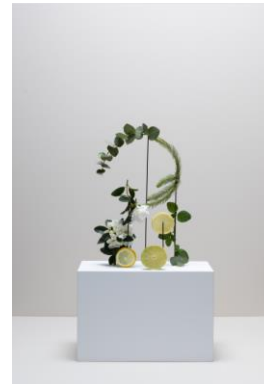
### Mollet Plant

- 1960-70 SINORGAN
- 1970-1987 SINOR KAO
- 1987 KAO CORPORATION S.A. HCA & ALDEHYDES
- 1995 GAMMA LACTONES
- 2019 LACTONES NEW



# AROMA CHEMICALS

## SYNERGIES



Oleo Chemicals

Aroma Chemicals

Aroma Compound &  
Surfactants

Consumer  
Products



# AROMA CHEMICALS

## PRODUCT RANGE

### APPLICATIONS

- Personal Care
- Laundry Care
- Home Care
- Fine Fragrances

Type	Commodities	Specialties
<ul style="list-style-type: none"> <li>• FLORAL</li> </ul>	<ul style="list-style-type: none"> <li>• MDJ</li> <li>• HCA</li> </ul>	<ul style="list-style-type: none"> <li>• TERPIROSA</li> <li>• ROMILAT</li> </ul>
<ul style="list-style-type: none"> <li>• GREEN ALDEHYDE</li> </ul>	<ul style="list-style-type: none"> <li>• ALDEHYDE C-6</li> <li>• ALDEHYDE C-8</li> <li>• ALDEHYDE C-9</li> <li>• ALDEHYDE C-10</li> <li>• ALDEHYDE C-11 UNDECYL</li> <li>• ALDEHYDE C-12 LAURYL</li> <li>• ALDEHYDE C-12 MNA</li> </ul>	<ul style="list-style-type: none"> <li>• TROENAN</li> <li>• HERBAVERT</li> <li>• POLLENAL II</li> <li>• MAGNOL</li> </ul>
<ul style="list-style-type: none"> <li>• FRUITY</li> </ul>	<ul style="list-style-type: none"> <li>• GAMMA UNDECALACTONE</li> <li>• GAMMA DECALACTONE</li> <li>• GAMMA NONALACTONE</li> </ul>	<ul style="list-style-type: none"> <li>• FRUITATE</li> <li>• POIRENATE</li> <li>• PERANAT</li> <li>• MELUSAT</li> </ul>
<ul style="list-style-type: none"> <li>• WOODY AMBER</li> </ul>		<ul style="list-style-type: none"> <li>• AMBROXAN</li> <li>• BOISAMBRENE FORTE</li> <li>• AMBER CORE</li> <li>• SANDALMYSORE CORE</li> <li>• IROTYL</li> <li>• AMBROTECH</li> </ul>



**COMMODITIES**  
**Selection**



## MDJ

### MAIN SPECIFICATIONS

- **Appearance:** Clear to pale yellow liquid
- **Odour:** Floral, Fresh, Jasmin-like
- **Specific Gravity at 20°C:** 0.998 – 1.006
- **Refractive Index at 20°C:** 1.457 – 1.462
- **Purity (by GLC):** 96% min.

### MAIN FEATURES

- **Stability:** Good stability between pH 4 – 8 at room temperature.
- **Uses:** Various type fragrances
- **Legislation:** CAS No. 24851-98-7, TSCA Registered, EINECS 246-495-9, CEPA DSL.







# UNDECALACTONE

## MAIN SPECIFICATIONS

- **Appearance:** Clear to pale yellow liquid
- **Odour:** Fruity, Peach, Apple
- **Specific Gravity at 20°C:** 0.941 – 0.948
- **Refractive Index at 20°C:** 1.448 – 1.452
- **Purity (by GLC):** 98% min.

## MAIN FEATURES

- **Stability:** Very good stability in a wide range of pH
- **Uses:** Various type flavours and fragrances
- **Legislation:** CAS No. 104-67-6, TSCA Registered, EINECS Registered, CEPA DSL.





# NONALACTONE

## MAIN SPECIFICATIONS

- **Appearance:** Clear to pale yellow liquid
- **Odour:** Fruity, Creamy, Coconut
- **Specific Gravity at 20°C:** 0.961 – 0.970
- **Refractive Index at 20°C:** 1.442 – 1.450
- **Purity (by GLC):** 98% min.

## MAIN FEATURES

- **Stability:** Very good stability in a wide range of pH
- **Uses:** Various type flavours and fragrances
- **Legislation:** CAS No. 104-61-0, TSCA Registered, EINECS Registered, CEPA DSL.





# DECALACTONE

## MAIN SPECIFICATIONS

- **Appearance:** Clear to pale yellow liquid
- **Odour:** Fruity, Creamy, Peach
- **Specific Gravity at 20°C:** 0.946 – 0.956
- **Refractive Index at 20°C:** 1.444 – 1.454
- **Purity (by GLC):** 98% min.

## MAIN FEATURES

- **Stability:** Very good stability in a wide range of pH
- **Uses:** Various type flavours and fragrances
- **Legislation:** CAS No. 706-14-9, TSCA Registered, EINECS Registered, CEPA DSL.





# HEXYL CINNAMIC ALDEHYDE

## MAIN SPECIFICATIONS

- **Appearance:** Yellow liquid
- **Odour:** Floral, Jasmin, Muguet
- **Specific Gravity at 20°C:** 0.953 – 0.963
- **Refractive Index at 20°C:** 1.547 – 1.553
- **Purity (by GLC):** 97% min.

## MAIN FEATURES

- **Stability:** Good stability pH 2 – 12 at room temperature.
- **Uses:** Floral type fragrances
- **Legislation:** CAS No. 101-86-0, TSCA Registered, EINECS Registered, CEPA DSL.



**SPECIALTIES**  
**Selection**



# AMBROXAN

## MAIN SPECIFICATIONS

- **Appearance:** White flakes
- **Odour:** Ambergris, Woody, Warm, Clean, Rich
- **Purity (by GLC):** 95% min

## MAIN FEATURES

- **Stability:** excellent stability in most media
- **Uses:** Various type fragrances
- **Legislation:** CAS No. 6790-58-5, TSCA Registered, EINECS 229-861-2, CEPA DSL.



# AMBROXAN

## Odor impression:

Ambergris, Woody, Warm, Clean, Rich

## Stability:

Excellent stability in most media

● Citrus

● Fruity

● Green

● Floral

● Woody

● Balsam  
Musk

Good combination materials		Recommended use of Ambroxan
Together with +	You can get -	
● Me b-na ketone	● Natural	for orange type
● Poireate	● Berry	with apple note
● Apple Base	● Enhance	
● Jasmocyclat	● Sweet	
● Gamma undecalactone	● Sweet	
● Raspberry ketone	● Soft	
● Herbavert	● Fresh	with green materials
● Pollenal II	● Powdery	
● cis-3 hexenol	● Sweet	
● Triplal	● Natural	
● Vertoriff	● Watery	
● Lifferome	● Natural	
● Allyl amyl glycolate	● Natural	
● Allyl cyclohex gly	● Soft	
● Undecavertol	● Natural	
● Buccoxime	● Sweet	
● Helional	● Sweet	
● cis-3 hexenyl sali	● Sweet	
● Jasmin Base	● Sweet	for green floral type
● Amber core	● Bright	
● Boisambrene forte	● Creamy	
● Iso E super	● Sweet	
● Timberol	● Sweet	with woody materials
● Cyclohexylsalicylat	● Soft	
● Cyclopenta decanolide	● Sweet	
● Galaxolide	● Sweet	
● Habanolide	● Soft	
● Ethylene brassyrate	● Mellow	

The most beautiful amber material for various use



# BOISAMBRENE FORTE

## MAIN SPECIFICATIONS

- **Appearance:** Colourless liquid
- **Odour:** Woody-amber, Dry, Sweet, Soft, Warm
- **Density at 20°C:** 0.931 - 0.935 g/m
- **Refractive Index at 20°C:** 1.465 – 1.469
- **Purity (by GLC):** 95% min.

25

## MAIN FEATURES

- **Stability:** stable in most media except high acid
- **Uses:** Various type fragrances
- **Legislation:** CAS No. 58567-11-6, TSCA Registered, EINECS 261-332-1, CEPA DSL.





# BOISAMBRENE FORTE

## Odor impression:

Woody-amber, Dry, Sweet, Soft, Warm

## Stability:

Stable in most media except high acid.

● Citrus

● Fruity

● Green

● Floral

● Woody

● Balsam  
Musk

Good combination materials		Recommended use of BBF
Together with +	You can get -	
● Lemon oil	● Volumy	for citrus type
● Peranat	● Volumy	for fruity type
● Damacenone	● Volumy	
● Gamma undecalactone	● Creamy	
● Vertoriff	● Soft	with green materials
● Lifferome	● Powdery	for green tea type
● Allyl amyl glycolate	● Sweet	
● Calone	● Soft	
● Helional	● Volumy	
● Phenyl hexanol	● Bouncy	with other woody materials
● Koavone	● Light	
● b-Ionone	● Soft	
● Amber core	● Warm	with balsam and musk note
● Benzyl salicylate	● Soft	
● Cyclohexylsalicylat	● Soft	
● Coumarine	● Soft	
● Cyclopentadecanolide	● Sweet	
● Galaxolide	● Sweet	
● Habanolide	● Soft	
● Ethylene brassyrate	● Soft	
● Ambroxan	● Creamy	

Versatile and beautiful **woody building block**





# HERBAVERT

## MAIN SPECIFICATIONS

- **Appearance:** Colourless liquid
- **Odour:** Green, Fruity, Herbal, Minty
- **Density at 20°C:** 0.839 - 0.843 g/m
- **Refractive Index at 20°C:** 1.433 – 1.437
- **Purity (by GLC):** 95% min. (mixture of isomers)

## MAIN FEATURES

- **Stability:** mostly stable except low P.H
- **Uses:** Various type fragrances
- **Legislation:** CAS No. 67583-77-1, TSCA Registered, EINECS 266-722-5, CEPA DSL.



# HERBAVERT

## Odor impression:

Green, Fruity, Herbal, Minty

## Stability:

Stable in most media except high acid.

● **Fruity**

Together with  
+

- Peranat
- Damacenone
- Cassis BASE
- Apple BASE
- Gama undeca

You can get  
-

- Mellow
- Flowery
- Fresh
- Fresh
- Fresh

### How to use IROTYL

to give freshness for fruity note

for apple, pear type

● **Green**

- Romilat
- Rose oxide
- Hexyl acetate
- Lifferome
- Allyl cyclohex gly
- Stemon
- Buccoxime
- Calone
- cis-3 hexenyl sali

- Mellow
- Flowery
- Flowery
- Fresh
- Fresh
- Fresh
- Fresh
- Fresh
- Fresh
- Vegetable

to give freshness for green note

for lavender type

● **Mint**

- I-Menthol

- Grassy

for mint type

● **Floral**

- Muguet BASE
- Troenan
- Phenyl hexanol

- Fresh
- Flowery
- Tinyflower

to give freshness for muguet type

● **Woody**

- o-TBCHA
- Irotyl
- Timberol

- Fresh
- Fruity
- Honeysuckle

● **Balsam  
Musk**

- Cyclohexylsalicylat
- Coumarine
- Vanillin
- Ambrettolide
- Ambroxan

- Soft
- Flowery
- Flowery
- Fresh
- Fresh

for powdery, oriental type

Very diffusive **enhancer of freshness and naturalness**





# AMBER CORE

## MAIN SPECIFICATIONS

- **Appearance:** Clear liquid
- **Odour:** Soft woody-amber, Transparent, Musky
- **Specific Gravity at 20°C:** 0.931 – 0.941
- **Refractive Index at 20°C:** 1.461 – 1.471
- **Purity (by GLC):** 98% min.

## MAIN FEATURES

- **Stability:** Good stability in soap, detergent, shampoo and other media. Non-discolouring.
- **Uses:** Excellently harmonizes with many materials. It blends with Citrus, Muguet, Oriental, Fougere and Chypre.
- **Legislation:** CAS No. 139504-68-0, TSCA Registered, ELINCS 412-300-2, CEPA DSL.



# AMBER CORE

## Odor impression:

Soft woody-amber, Transparent, Musky

## Stability:

Stable in most media.

● Citrus

● Fruity

● Green

● Aromatic

● Floral

● Woody

● Balsam  
Musk

Good combination materials		Recommended use of AMBER CORE
Together with +	You can get -	
<ul style="list-style-type: none"> <li>Lemon oil</li> <li>Me b-na ketone</li> </ul>	<ul style="list-style-type: none"> <li>Wartery</li> <li>Orangeflower</li> </ul>	<ul style="list-style-type: none"> <li>for citrus type</li> <li>for orange flower type</li> </ul>
<ul style="list-style-type: none"> <li>Melusat</li> <li>Fruitate</li> <li>Damacenone</li> <li>Cassis Z</li> <li>Apple Z.21</li> <li>Gamma undecalactone</li> </ul>	<ul style="list-style-type: none"> <li>Cattleya</li> <li>Taget</li> <li>Dewy</li> <li>Mild</li> <li>Fresh</li> <li>Apple</li> </ul>	<ul style="list-style-type: none"> <li>for various fruity type</li> </ul>
<ul style="list-style-type: none"> <li>Rose oxide</li> <li>Pollenal II</li> <li>cis-3 hexenol</li> <li>Triplal</li> <li>Vertoriff</li> <li>Allyl amyl glycolate</li> <li>Undecavertol</li> <li>Calone</li> <li>Phenylacetald.GA</li> <li>Magnol</li> </ul>	<ul style="list-style-type: none"> <li>Fresh</li> <li>Apple</li> <li>Fresh</li> <li>Apple</li> <li>Wartery</li> <li>Sweet</li> <li>Leafy</li> <li>Airy</li> <li>Watery</li> <li>Heavyflower</li> </ul>	<ul style="list-style-type: none"> <li>with green materials</li> <li>for marin ozone</li> </ul>
<ul style="list-style-type: none"> <li>iso-Bornyl acetate</li> <li>I-Menthol</li> </ul>	<ul style="list-style-type: none"> <li>Clean</li> <li>Soft</li> </ul>	<ul style="list-style-type: none"> <li>for mint type</li> </ul>
<ul style="list-style-type: none"> <li>MDJ</li> <li>Koavone</li> <li>o-TBCHA</li> <li>Irotyl</li> <li>Methyl ionone G</li> <li>Sandalmysore core</li> <li>Boisambrene Forte</li> <li>Timberol</li> </ul>	<ul style="list-style-type: none"> <li>Clear</li> <li>Transparent</li> <li>Juicy</li> <li>Muscat</li> <li>Fine</li> <li>Cotton</li> <li>Warm</li> <li>Light</li> </ul>	<ul style="list-style-type: none"> <li>with other green materials</li> </ul>
<ul style="list-style-type: none"> <li>Cyclohexylsalicylat</li> <li>Heliotropine</li> <li>Coumarine</li> <li>Cyclopenta decanolide</li> <li>Habanolide</li> </ul>	<ul style="list-style-type: none"> <li>Soft</li> <li>Mild</li> <li>Sweet</li> <li>Sweet</li> <li>Juicy</li> </ul>	<ul style="list-style-type: none"> <li>for powdery type</li> </ul>

Transparent woody note good for light order type





# FRUITATE

## MAIN SPECIFICATIONS

- **Appearance:** Clear liquid
- **Odour:** Fruity, Banana, Apple, Floral, Rose
- **Specific Gravity at 20°C:** 1.034 – 1,051
- **Refractive Index at 20°C:** 1.482 – 1.488
- **Purity (by GLC):** 98% min.

## MAIN FEATURES

- **Stability:** Very good all round stability and non-discolouring. Specially very stable in highly alkaline and acid.
- **Uses:** Harmonizes wonderfully with Jasmin, Tuberose, Lavender, Bergamot and Citrus.
- **Legislation:** CAS No. 80657-64-3/80623-07-0, TSCA Registered, ELINCS 407-520-0, CEPA DSL.



# FRUITATE

## Odor impression:

Fruity, Banana, Apple, Floral, Rose

## Stability:

Stable in most media.

● Citrus

● Fruity

● Green

● Aromatic

● Floral

● Woody

● Balsam  
Musk

### Good combination materials

Together with  
+

You can get  
-

● Orange oil	● Nable or.
● Poirenate	● Juicy
● Floramat	● Orangepeel
● Damacenone	● Petal
● Cassis Base	● Berry
● Apple Base	● Peach
● Jasmocyclat	● Banana
● Gamma undecalactone	● Juicy
● Raspberry ketone	● Raspberry
● Rose oxide	● Mild
● Pollenal II	● Citrusy
● cis-3 hexenol	● Berry
● Triplal	● Muscat
● Lifferome	● Natural
● Allyl cyclohex gly	● Juicy
● Buccoxime	● Tropical
● Helional	● Melon
● cis-3 hexenyl sali	● Fruity
● Eucaryptol	● Mellow
● Rose abs Base	● Redrose
● Koavone	● Grape
● o-TBCHA	● Apple
● Sandalmysore core	● Orange
● Amber core	● Taget
● Iso E super	● Watery
● Cyclohexylsalicylat	● Marshmallow
● Cyclopenta decanolide	● Juicy
● Ambrettolide	● Apple

Very stable **fruity floral accent** material

### Recommended use of FRUITATE

for orange type

with Poirenate  
with Floramat

with Damascenone

for various fruity type

with green materials

for green floral type

for rose type

with woody materials



# FRAGRANCES & AROMA CHEMICALS

IDEAL PARTNER FOR:



PERSONAL CARE



HOME CARE



FABRIC CARE



FINE FRAGRANCES





**KaO**

Kirei—Making Life Beautiful