



CERTIFICATE OF ANALYSIS (COA)

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Ambrettolide – IFF

Product Identification

Parameter	Details
Product Name	Ambrettolide – IFF
Product Description	Clean Musk
Chemical Name	Oxacycloheptadec-10-en-2-one
Alternative Name	Isoambrettolide
Chemical Family	Macrocyclic unsaturated lactone
CAS Number	28645-51-4 / 63286-42-0
EC Number	249-120-7
IFF IPC Number	14200
Molecular Formula	C ₁₆ H ₂₈ O ₂
Molecular Weight	252.4 g/mol
Manufacturer	International Flavors & Fragrances Inc. – IFF
Grade	Professional perfumery grade
Product Form	Concentrated aroma ingredient

Analytical Specifications

Test	Proposed Specification	Representative Result	Test Method
Appearance	Clear homogeneous liquid	Complies	Visual
Colour	Colourless to pale yellow	Pale yellow	Visual
Odour	Characteristic clean, warm, floral and fruity musk	Complies	Organoleptic
Identification	Conforms to approved reference	Pass	GC-MS/IR
Assay/Purity	Manufacturer specification	98.5%	GC-FID
Relative Density at 20°C	0.890–0.970	0.936	Density meter



Refractive Index at 20°C	1.4700–1.4900	1.4802	Refractometer
Acid Value	Maximum 2.0 mg KOH/g	0.3 mg KOH/g	Titration
Water Content	Maximum 0.50%	0.08%	Karl Fischer
Peroxide Value	Maximum 10.0 meq O ₂ /kg	1.2 meq O ₂ /kg	Titration
Flash Point	Minimum 95 °C	Above 100 °C	Closed cup
Solubility in Alcohol	Soluble or readily dispersible	Pass	Visual
Solubility in Water	Practically insoluble	Complies	Visual
Foreign Matter	Absent	Pass	Visual
GC Profile	Conforms to approved reference	Pass	GC-FID/GC-MS

All numerical values are representative placeholders unless supported by the original IFF batch Certificate of Analysis.

Representative Chromatographic Profile

Component	Representative Range
Oxacycloheptadec-10-en-2-one and Relevant Isomers	97.0–100.0%
Related Macrocyclic Lactones	0.0–2.0%
Process-Related Organic Impurities	Maximum 1.0%
Residual Solvents	Within manufacturer specification
Unidentified Minor Components	Within manufacturer specification

The exact isomer distribution and purity requirements must be taken from the current IFF technical specification.

Organoleptic Profile

Attribute	Description
Olfactive Family	Musk
Primary Character	Clean, warm and diffusive musk
Secondary Facets	Floral, fruity, ambrette-like and softly sweet
Background	Skin-like, elegant and smooth
Diffusion	High
Tenacity	Very high
Substantivity	Greater than 48 hours
Typical Perfumery Use Level	Traces to 2%, according to IFF product guidance
Function	Musk note, blender, diffuser and fixative

The stated typical use level is olfactive guidance and not a regulatory or IFRA maximum.

Representative Purity Declaration

Parameter	Status
Synthetic or Manufactured Aroma Ingredient	Yes
Natural-Derived Claim	Applicable only where supported by current IFF documentation
Added Colour	Not intentionally added
Added Preservatives	Not intentionally added
Added Carrier Solvent	None expected unless declared
Animal-Derived Material	Not intentionally added
Phthalates	Not intentionally added
GMO Material	Not expected
Irradiation	Not expected
Direct Skin Application	Not recommended undiluted
Food Use	Not authorised by this certificate

Residual Solvents and Impurities

Test	Proposed Requirement	Representative Status
Residual Manufacturing Solvents	Within manufacturer specification	Pass
Heavy Metals	Within applicable technical limits	Pass
Undeclared Carrier	Not expected	Pass
Foreign Fragrance Materials	Not detected above specification	Pass
Water	Within specification	Pass

A batch-specific residual-solvent report should be used where required by the customer or destination market.

Stability and Storage

Store:

- At approximately 15–25 °C
- In the original tightly closed container
- In a dry and well-ventilated location
- Away from direct sunlight
- Away from excessive heat
- Away from strong acids, alkalis and oxidising agents
- With minimum exposure to air and moisture
- Using clean and dry dispensing equipment



Do not return dispensed material to the original container.

Shelf Life

24 months from the manufacturing date when stored unopened under recommended conditions, unless the original IFF documentation specifies a different period.

Quality Conclusion

Based on the representative analytical information, the material conforms to the proposed quality specification for:

Ambrettolide – IFF, Clean Musk

The material is suitable for professional fragrance formulation, subject to:

- Original IFF batch approval
 - Finished-product IFRA assessment
 - Cosmetic safety assessment
 - Regional regulatory review
 - Good manufacturing practice
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Authorised By:

Fozia Khot
Director