

TECHNICAL DATA SHEET

C16 ALDEHYDE

Synthetic glycidate ester with an intense strawberry and ripe-fruit odour

1. RAW MATERIAL IDENTIFICATION

Product name	C16 Aldehyde
Chemical name	Ethyl 3-methyl-3-phenyloxirane-2-carboxylate
IUPAC name	Ethyl 2,3-epoxy-3-phenylbutyrate
Synonyms	Aldehyde C16; Strawberry Aldehyde; Ethyl Methylphenyl Glycidate
INCI name	ETHYL METHYLPHENYL GLYCIDATE
CAS / EC number	77-83-8 / 201-061-8
REACH number	01-2119967770-28-XXXX
FEMA / JECFA / FLAVIS number	2444 / 1577 / 16.015
Molecular formula / weight	C ₁₂ H ₁₄ O ₃ / 206.24 g/mol
Chemical group	Aromatic glycidate ester
Origin / country of origin	Synthetic / China
Raw material category	Aroma chemical

2. OLFACTORY CLASSIFICATION AND ODOUR PROFILE

C16 Aldehyde belongs to the Fruity - Non Citrus olfactory family. In a fragrance composition, it functions as a middle note, providing body, sweetness and a recognisable fruity character.

Its odour is sweet and intensely fruity, with a dominant strawberry note, nuances of ripe peach, pineapple and red fruit, and a mild floral and creamy-lactonic character. It is intended for fragrance compositions, fragrance bases, cosmetic products and flavour applications.



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3. DESCRIPTION AND FUNCTION IN FRAGRANCE COMPOSITION

C16 Aldehyde is a synthetic aroma chemical with a pronounced sweet and fruity odour. Its dominant character resembles ripe strawberry, accompanied by peach, pineapple and red-fruit nuances and a mild floral-creamy softness.

The material has good tenacity and a strong influence on the character of a composition. It provides fruity accords with body, sweetness and a recognisable strawberry effect. At lower levels, it enriches floral, gourmand and powdery fragrances, while at higher levels it may become distinctly sweet and dominant.

Functional role in perfumery: It is used as a principal building block of strawberry accords, a fruity modifier and an enhancer of sweet, creamy and floral-fruity compositions. It gives fragrances juiciness, body and a longer-lasting fruity character.

4. APPLICATION AND OLFACTORY COMPATIBILITY

Recommended use in fragrances: For building strawberry, peach and mixed red-fruit accords and for introducing sweet, juicy and creamy-fruity nuances into fragrance compositions.

It is used to create and modify:

- strawberry and wild-strawberry accords;
- ripe-peach and ripe-fruit compositions;
- pineapple, raspberry, cherry and mixed red-fruit accords;
- floral-fruity compositions;
- gourmand and confectionery fragrances;
- creamy, lactonic and milky-fruity accords;
- rose, jasmine and other floral bouquets;
- powdery and sweet fragrance compositions;
- fragrances for soaps, cosmetic products and household hygiene products.

It combines well with γ -undecalactone, γ -decalactone, Aldehyde C14, ethyl maltol, vanillin, benzyl acetate, phenylethyl alcohol, ionones, damascones, jasmine materials, citrus oils and musk aroma chemicals.

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5. RECOMMENDED USE

Method of use	May be added directly to the fragrance concentrate; for precise laboratory dosing, a 10% solution in ethanol, dipropylene glycol or another suitable perfumery solvent is recommended
Recommended use level	0.10-3.00% in the fragrance concentrate
Dosing note	Below 0.10% for subtle enhancement of the fruity character; in pronounced strawberry accords and gourmand compositions, adjust the level to the desired effect
IFRA status	According to the supplier's documentation for the 51st IFRA Amendment, it is compliant for use up to 100% in all listed categories; the document sets no specific restriction

The stated range is a formulation recommendation and not a regulatory maximum. Confirm the final concentration against the current IFRA certificate, the safety assessment and the intended use of the finished product.

6. PHYSICOCHEMICAL AND TECHNICAL DATA

Appearance / colour	Clear liquid / colourless
Odour	Sweet and intensely fruity strawberry odour, with ripe-peach nuances and a mild floral and creamy-lactonic character
Purity	98.0-100.0%
Relative density at 25 °C	1.086-1.096
Refractive index at 20 °C	1.504-1.513
Acid value	0-2.0 mg KOH/g
Boiling point	259-261 °C
Flash point	93 °C, closed-cup method
Solubility	Insoluble in water; soluble in ethanol and conventional perfumery solvents
Shelf life	24 months



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7. STABILITY AND COMPATIBILITY

Stable under proper handling and storage conditions. Avoid contact with strong oxidising agents. Stability, compatibility, colour and odour profile must be confirmed in the finished formulation and intended packaging.

8. REGULATORY DATA AND STATUS

Vegan status: Vegan; contains no ingredients of animal origin. GMO status: Does not contain and is not derived from GMOs.

Nanomaterials: Does not contain nanomaterials according to the relevant regulatory definitions.

According to the supplier's cosmetic declaration, the product contains no declarable fragrance allergens covered by Regulation (EU) 2023/1545. However, the raw material itself has a CLP classification as a skin sensitizer, which must be considered in the safety assessment of the finished product.

Naming note: C16 Aldehyde is a traditional perfumery name. Chemically, the substance is not an aldehyde and does not contain 16 carbon atoms; it belongs to the glycidate ester group. Strawberry Aldehyde is also a trade perfumery name.

9. STORAGE AND SHELF LIFE

Store at a temperature not exceeding 25 °C in the original, well-filled and hermetically sealed container, in a cool, dry and well-ventilated place, protected from air, light and sources of heat.

Shelf life: 24 months according to the Avena Chem standard. The supplier's documentation states a shelf life of 12 months.

10. SAFETY INFORMATION

C16 Aldehyde is intended for professional use as an ingredient in fragrance and cosmetic compositions. It must not be applied directly to the skin in concentrated form.

According to the supplier's safety data sheet: H317 - May cause an allergic skin reaction; H411 - Toxic to aquatic life with long-lasting effects.

Wear suitable protective gloves and eye protection. Avoid inhalation of vapours or aerosols and direct contact with skin and eyes. Prevent release into drains, soil and waterways.

11. DISCLAIMER

The information applies exclusively to the raw material described and does not replace the specification, COA, IFRA documentation or SDS issued by the specific manufacturer. The user is responsible for verifying suitability, stability, safety and regulatory compliance for the intended application and target market. This document does not constitute regulatory approval or a guarantee of finished-product properties.