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TECHNICAL DATA SHEET

C10 DECYL ALDEHYDE

Decanal · synthetic citrus-aldehydic aroma chemical

1. PRODUCT IDENTIFICATION

Product name	C10 Decyl Aldehyde
Synonyms	Aldehyde C10; Decyl Aldehyde; Capric Aldehyde; Decanal
CAS number	112-31-2
FEMA / FLAVIS	2632 / 05.010
INCI / IUPAC name	Decanal
Molecular formula	$C_{10}H_{20}O$
Molecular weight	156.27 g/mol
Raw material type	Synthetic aliphatic aldehyde
Olfactory family	Aldehydic, hesperidic, citrus
Position in perfume	Top note
Origin / category	Synthetic

2. OLFACTORY CLASSIFICATION AND ODOUR PROFILE

C10 Decyl Aldehyde, also known as Decanal, is a synthetic aroma chemical from the aldehydic-hesperidic olfactory family. It belongs to the classical C-series of aliphatic aldehydes and is used to construct fresh, diffusive, citrus-aldehydic and floral-aldehydic fragrance structures.

Its odour profile is fresh, aldehydic, mildly hesperidic and orange-like, with a subtle fatty facet. In a composition, it provides a bright, clean and recognisably aldehydic effect associated with classical perfumes featuring an aldehydic opening.

3. FUNCTION IN A FRAGRANCE COMPOSITION

C10 Decyl Aldehyde acts as a top note and is effective at very low concentrations. It lifts a composition, increases diffusion and adds an elegant citrus-aldehydic radiance. In floral-aldehydic structures, it links citrus freshness with white flowers, rose, jasmine and clean musk bases.

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4. APPLICATION AND COMPATIBILITY

It is suitable for aldehydic, floral-aldehydic, citrus-aldehydic, chypre and cologne compositions, classical feminine perfumes, white-floral accords and clean or soapy fragrance profiles. In citrus accords, it reinforces the orange-hesperidic character and improves projection; in chypre and cologne structures, it contributes a clean, bright and mildly waxy-fatty opening.

It blends particularly well with bergamot, lemon, orange, petitgrain, neroli, C8, C9, C11 and C12 aldehydes, rose, jasmine, lily of the valley, iris, ylang-ylang, lavender, lavandin, green notes, oakmoss, patchouli, white musks and clean woody bases.

5. RECOMMENDED USE

The general recommended concentration in a perfume composition is 0.01-0.1%. Owing to its high olfactory strength, pre-dilution in a suitable perfume solvent is recommended for more precise dosing.

Aldehydic compositions	0.01-0.1%
Floral-aldehydic perfumes	0.01-0.08%
Citrus-aldehydic accords	0.01-0.08%
Chypre compositions	0.01-0.05%
Cologne structures	0.01-0.05%
White-floral accords	0.01-0.05%

Excessive dosage may produce an overly dominant, fatty or aggressively aldehydic impression. Compatibility, stability, colour and odour profile should be tested in the finished formulation.

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6. PHYSICOCHEMICAL DATA

Appearance	Liquid
Colour	Colourless
Odour	Aldehydic, citrus
Density at 25 °C	0.823-0.832
Refractive index at 20 °C	1.426-1.432
Flash point	87 °C
Purity	98.0-100.0%
Solubility	Not specified in the technical data provided

7. STABILITY

This sensitive aldehydic material should be stored at a temperature not exceeding 25 °C, in the original, well-filled and tightly closed container, protected from air and light.

8. REGULATORY AND STATUS INFORMATION

IFRA status: According to the information provided, no restrictions were specified under the 50th Amendment. The current IFRA documentation, SDS and regulatory requirements for the relevant finished-product category must nevertheless be consulted before use.

Vegan status: Vegan; does not contain ingredients of animal origin. GMO status: Not specified in the technical data provided.

9. STORAGE AND SHELF LIFE

Store at a temperature not exceeding 25 °C, in the original, well-filled and tightly closed container, protected from air and light. Shelf life is 12 months under the specified storage conditions.

10. SAFETY INFORMATION

The product is intended for professional use in perfume and cosmetic fragrance formulations. Do not use undiluted as a finished product. Refer to the current Safety Data Sheet (SDS) for hazard classification, safe handling, first-aid measures and disposal instructions.

11. DISCLAIMER

The information in this technical data sheet relates to the material described and is based on the technical data provided. The user is responsible for verifying suitability, stability, safety and regulatory compliance in the intended formulation and application. This document does not guarantee the properties of the finished product.