

TECHNICAL DATA SHEET

SAFRANAL

Cyclic aldehyde · synthetic spicy-saffron aroma chemical

1. PRODUCT IDENTIFICATION

Product name	Safranal
Chemical name	2,3-Dihydro-2,2,6-Trimethylbenzaldehyde
IUPAC name	2,6,6-Trimethylcyclohexa-1,3-diene-1-carbaldehyde
INCI name	2,3-Dihydro-2,2,6-Trimethylbenzaldehyde
CAS number	116-26-7
EC / EINECS	204-133-7
Molecular formula	C ₁₀ H ₁₄ O
Molecular weight	150.22 g/mol
Raw material type	Synthetic cyclic aldehyde
Position in perfume	Middle note

2. OLFATORY CLASSIFICATION AND ODOUR PROFILE

Safranal is a synthetic aroma chemical from the cyclic aldehyde group, with a strong, warm and spicy-aromatic character. It is an important odour marker of natural saffron and contributes to its characteristic olfactory identity. Its profile combines a saffron note, dry cut hay and mildly medicinal tones with a terpenic-aldehydic and subtly woody background.

3. FUNCTION IN A FRAGRANCE COMPOSITION

It functions primarily as a middle note, although its high olfactory strength may strongly influence the overall character of the base. It is particularly important in saffron reconstructions, where very small quantities provide an authentic dry, aromatic and mildly medicinal nuance.

TECHNICAL DATA SHEET

4. APPLICATION AND COMPATIBILITY

Safranal blends effectively into spicy-oriental, leather, amber and woody compositions. With leather materials, it strengthens the dry and warm character, while labdanum, benzoin and amber notes give it a fuller and warmer dimension. In contemporary compositions, it is used to create a recognisable saffron-leather signature.

It combines well with saffron bases, cedarwood, sandalwood, labdanum, benzoin, musks, tobacco and leather accords. At very low levels, it can also add complexity to floral or gourmand structures, but its strong identity requires careful balancing.

5. RECOMMENDED USE

It is used in saffron reconstructions and in spicy, leather, amber, woody and oriental compositions.

Safranal is a highly potent aroma chemical and is used at very low concentrations, often at several ppm or in highly diluted solutions, depending on the desired intensity. Small concentration changes may significantly alter the overall identity of a fragrance composition.

6. PHYSICOCHEMICAL DATA

Appearance	Liquid
Colour	Yellow
Odour	Spicy, woody and herbal
Density at 20 °C	0.966-0.976
Refractive index at 20 °C	1.521-1.527
Flash point	85 °C, closed cup
Purity	90-100%
Antioxidant	<0.1% α -tocopherol
Solubility	Not specified in the technical data provided

TECHNICAL DATA SHEET

7. ORIGIN AND RAW MATERIAL STATUS

Raw material origin: Synthetic. Geographical origin: Not specified in the technical data provided. ISO 16128: 0% natural origin. Renewable carbon: 0%.

8. REGULATORY AND STATUS INFORMATION

IFRA status: Not specified in the technical data provided. Use must comply with the current IFRA certificate and any restrictions applicable to the relevant finished-product category.

Vegan status: Vegan; no animal-derived materials are used in the manufacturing process. GMO status: Does not contain GMOs and is not derived from GMO raw materials.

Halal status: Compliant with Halal requirements. Kosher status: Compliant with Kosher requirements. Nanomaterials: Not applicable according to the TDS.

BSE/TSE status: Free from BSE/TSE risk. Animal testing: The product has not been tested on animals. Palm oil: Does not contain palm oil, palm kernel oil or their derivatives.

9. STORAGE AND SHELF LIFE

Store in the original, tightly closed container, in a cool place, protected from light, heat and air, at a temperature not exceeding 10 °C. Shelf life is 24 months under the specified storage conditions.

10. SAFETY INFORMATION

The product is intended for industrial use in perfumes, cosmetics and flavours. Avoid direct contact with the undiluted 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.