

High Purity Fragrance Ingredients

## Kalama® Amyl Cinnamic Aldehyde

JASMINE 

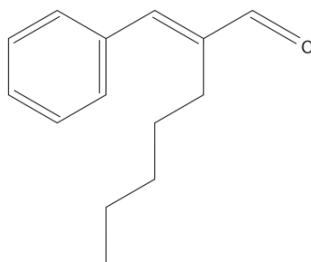
CAS No.: 122-40-7 EC No.: 204-541-5

**Emerald Kalama Chemical** is a leading provider of high purity flavor and fragrance ingredients, lending the perfect note to fine fragrances, personal care, laundry and household care, and food and beverages.

Our consistent, nature-identical ingredients have been trusted for many years as we continue to position ourselves as industry leaders. Following our acquisition of DSM Special Products in 2010, we became the largest benzaldehyde producer in the world, as well as a leading global supplier for many key flavor and fragrance ingredients based on benzaldehyde.

Now, we have affirmed our commitment to excellence by expanding our portfolio of aroma chemicals. With the acquisition of Innospec Widnes Ltd, now Emerald Kalama Chemical Ltd, we can offer an increased range of products derived from benzaldehyde and terpenes, as well as Florosol, a full-bodied muguet note.

These fragrances deliver new ways of appealing to customers with comforting, alluring, engaging aromas, which play a central role in personal care and fine fragrance. In addition, consumers of laundry and household care products are attracted by the clean, fresh fragrances with which they want to fill their homes.



### Olfactory Description

Amyl Cinnamic Aldehyde (ACA) was developed as a response to price fluctuations of natural oils, allowing perfumers to create an economical, jasmine-type odor. Acetal derivatives of ACA has shown interesting odor characteristics. The lower aliphatic alcohols form acetals with jasmine-like odors, while higher aliphatic alcohols have a cocoa-like aroma.

### Applications

ACA is used extensively in perfumes, where it produces a jasmine-like floralness when accompanied by more volatile chemicals of floral character. It is also widely found in fragrances used in products such as detergents, deodorants, fabric softeners, cleaners, shampoo, and soaps. It blends easily in formulations and assists in fixation of the fragrance. In addition to perfumes, ACA is recommended for deodorants, shampoo, soaps, and laundry care.

### Shelf Life

The recommended retest date is 12 months from the date of manufacture. If the drum (or tote) has been unopened, properly stored, and the product tested to confirm quality, it may be possible to extend the retest date to a maximum of 24 months from the date of manufacture.

### Packaging and Handling

Standard package sizes, 190 kg (419 lbs), 950 kg (2,090 lbs), and 20,000 kg (45,000 lbs). This product is easily oxidized, and measures should be taken to protect the product from exposure to air. When storing drums or samples, the product should be "padded" with dry nitrogen or another inert gas. This product should be handled using the safe handling practices normally accorded with the handling of organic chemical compounds, including avoidance of contact, adequate ventilation, and cleanliness.

<b>Assay</b>	97.0%, minimum (sum of cis & trans isomers)
<b>Visual Description</b>	Clear, yellow liquid
<b>Flash Point (CC)</b>	>93.3°C (>200°F)
<b>Refractive Index (20°C)</b>	1.555 – 1.559
<b>Density at 20°C</b>	0.963 – 0.968
<b>Acid Value (mgKOH/g)</b>	5.0 maximum
<b>Additives</b>	TBHQ (tert-butyl-hydroquinone) antioxidant
<b>Produced At</b>	Widnes, United Kingdom

*Above properties are typical and should not be confused with, or regarded as, sales specifications.*

## Committed to Quality, Excellence, and Leadership

We strive to be your supplier of choice by providing service and value to our customers through continuous improvement initiatives, plant expansions, acquisitions, and new product development. Our facility in Kalama, Washington has continued to build a portfolio of flavor and fragrance ingredients based on benzaldehyde, and is now a leading global supplier of hexyl cinnamic aldehyde (HCA), amyl cinnamic aldehyde (ACA), cinnamic aldehyde, cinnamic alcohol, benzaldehyde, benzyl alcohol, linear aldehydes (C6, C8, C10), and new methyl benzoate. Our newest facility in Widnes, United Kingdom also produces a wide range of high purity aroma chemicals derived from benzaldehyde and terpene raw materials, creating key ingredients for many fragrance applications.

In addition, Emerald Kalama Chemical produces other benzoates for personal care, household care, cosmetics, and food and beverage applications. These include Purox® B benzoic acid, Kalama® benzaldehyde, Kalama® benzyl alcohol, and Purox® S and Kalama® sodium benzoate. These products are used as high quality antimicrobials, preservatives, and raw materials in many applications and are produced at our facilities in Kalama, Washington and Rotterdam, Netherlands.

## Reaching for the Highest Standards

Our experienced technical, QC, and regulatory personnel work diligently to ensure our products meet or exceed all applicable standards and that our processes and procedures are in compliance with standards such as c-GMP.

Our manufacturing facilities have ISO 9001:2008 and ISO 14001:2004 certified programs in place. Kalama offers products meeting the requirements of the US Pharmacopeia, National Formulary, Food Chemicals Codex, and European Pharmacopeia, in addition to Kosher and Halal certifications. Our customers also benefit from raw materials with no chlorinated compounds. Certain products are manufactured following FSSC 22000 certified food safety management programs.

## Serving You Globally

The Emerald Kalama Chemical operations in Kalama, Washington, Rotterdam, The Netherlands, and Widnes, United Kingdom are among the largest and most efficient of their kind in the world. Our facilities are strategically located to serve our customers' needs globally. We have been in business for nearly 50 years, both as Emerald and as a part of our predecessor organizations – building upon our expertise to offer the best products and services today.

**Emerald Kalama Chemical** is a business group of Emerald Performance Materials. With operations in Europe and the United States, Emerald Kalama Chemical is a world-scale producer of benzoic acid, various benzoate and dibenzoate esters, flavor and fragrance ingredients, alcohol and aldehyde derivatives for food preservatives, flavor and fragrance ingredients, plasticizers, and industrial applications.

Emerald Performance Materials manufactures additives and polymers to make your products last longer, look, taste, smell, or perform better. We serve many consumer and industrial applications, such as food and beverage, flavor and fragrance, coatings, adhesives, rubber, plastics, composites, ink, paper, textiles, and others. The company has 4 business groups, 9 operations, and over 800 employees to serve customer needs globally.

## Contact Us

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