



High Purity Fragrance Ingredients

Kalama® Peach Lactone (Gamma Undecalactone)



CAS No.: 104-67-6 EC No.: 203-225-4

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.

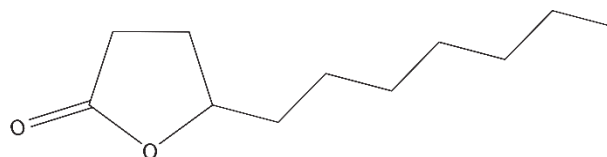
These fragrances deliver new ways of appealing to customers with comforting, alluring, engaging aromas, which play a central role in personal care and fine fragrance. In addition, consumers of laundry and household care products are attracted by the clean, fresh fragrances with which they want to fill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

C-14 Aldehyde, C-14 Gamma Undecalactone

$C_{11}H_{20}O_2 = 184 \text{ g/mol}$

HTS No. 2932205050

TSCA Registered



Olfactory Description

Fruity, peach, creamy, fatty, apricot

Applications

Widely used fragrance ingredient valued for bringing a sweet, peachy, or fresh fruity aroma to fine fragrance applications, especially floral compositions, as well as fine fragrances, shampoos, soaps, cosmetics, household and air care. Also valued in food and beverage applications, where it delivers a satisfying fatty, creamy, peachy flavor and acts as a fixative for more volatile fruit esters.

Substantivity

>48 hours on a smelling strip

Shelf Life

The recommended retest date is 24 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 48 months from the date of manufacture.

Packaging and Handling

Standard package size, 190 kg (419 lbs). 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.

Assay	98.0% minimum
Visual Description	Colorless to pale yellow liquid
Flash Point (CC)	>113°C (>235°F)
Refractive Index (20°C)	1.448 – 1.454
Density at 20°C (g/ml)	0.941 – 0.947
Acid Value (mgKOH/g)	3.0 Maximum
Produced At	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 2 business groups, 6 operations, and approximately 700 employees to serve customer needs globally.

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