

News Release

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BASF achieves ‘Lower Carbon Footprint’ certification for Geraniol Extra BMBcert™ by the Carbon Trust

- **More than 20 aroma ingredients available with reduced product carbon footprint via use of renewable raw materials in the value chain**
- **Transparency on CO₂ emissions via product carbon footprints available**
- **Givaudan and BASF joining forces on innovative sustainability solutions**

Ludwigshafen, November 15, 2022 As first aroma ingredient supplier, BASF offers Geraniol Extra BMBcert™ with a third-party certified carbon footprint demonstrably lower than market standard¹. The rose scent is used in various day-to-day Home and Personal Care products. Besides the reduction of CO₂ emissions, Geraniol Extra BMBcert™ adds further sustainability contributions to its broad application fields as it replaces fossil feedstock with 100% certified renewable raw materials via a biomass balance approach and it is classified as readily biodegradable².

The ‘Lower Carbon Footprint’ certification for Geraniol Extra BMBcert™ was enabled by using BASF’s efficient integrated production site and the certified biomass balance approach. Renewable raw materials are used in the very first steps of chemical production replacing fossil feedstock. The bio-based feedstock amount is attributed to the end product by means of the externally certified mass balance method. The BMBcert™ products are "drop-in" solutions which are identical in

quality and performance to the fossil-based products, allowing customers to use them in their production without the need for reformulation. Besides Geraniol Extra BMBcert™ BASF offers more than 20 other aroma ingredients produced with the biomass balance approach and featuring a reduced product carbon footprint.

“We consider BASF’s BMBcert™ aroma ingredients as a valuable addition to our pallet: This is a great contribution to replace fossil with renewable feedstock and achieve a significant reduction of CO₂ emissions”, said Willem Mutsaerts, Chief Procurement Officer and Chief Sustainability Officer at Givaudan.

Third-party certification and availability of product carbon footprints as commitment to increasing data quality on CO₂ emissions

The independent global climate change consultancy the Carbon Trust certified Geraniol Extra BMBcert™ with a product carbon footprint that is demonstrably lower than the market standard. Geraniol Extra BMBcert™ was part of a first pilot of the certification process. “When you see our label, you know that the product’s carbon footprint has been certified to internationally recognized standards. BASF is the first company to work with the Carbon Trust to achieve the ‘Lower Carbon Footprint’ certification of an aroma ingredient”, said Hugh Jones, Managing Director, The Carbon Trust.

On its journey to net zero CO₂ emissions by 2050³, BASF is the first chemical company to calculate the carbon footprint⁴ on a product level for 45,000 products. For BASF Aroma Ingredients, the Virtual Aroma Assistant, an online service platform, allows customers to request the product carbon footprint data. The cradle-to-gate product carbon footprint statements comprise the total greenhouse gas emissions that occur from the extraction of resources through manufacturing of the precursors and intermediates until the final aroma ingredient leaves the BASF factory gate. Using carbon footprint-optimized aroma ingredients will enable the Flavor & Fragrance industry to reach their ambitious sustainability targets for greenhouse gas emission reduction.

“We are proud that Givaudan honors BASF’s biomass balance approach and that we achieved such a differentiating certification from the Carbon Trust. We now offer a large share of our aroma ingredients portfolio using the biomass balance approach which addresses our customers’ demands for use of renewable raw materials and for products with a reduced CO₂ footprint”, said Steffen Götz, Vice President Global Sales & Business Management, BASF Aroma Ingredients.

About BASF’s Global Aroma Ingredients Unit and BASF’s Nutrition & Health division

BASF’s Global Business Unit Aroma Ingredients is a part of BASF’s division Nutrition & Health. BASF Nutrition & Health provides a comprehensive product and service range for human and animal nutrition, pharmaceutical and flavor & fragrance industries. BASF Aroma Ingredients offers a broad portfolio from six scent clusters (rose, citrus, lavender, muguet, mint, selected sensations) for the Flavor & Fragrance industry. We build on scientific strength, an excellent regulatory know-how, a global supply network and two world-scale aroma ingredients production sites in Ludwigshafen, Germany, and Kuantan, Malaysia. Our business is based on cooperation with our customers, a broad spectrum of innovation and technology partners and a perfumer network, all integrated into BASF’s Production and Research Verbund. Isobionics® and BASF’s Biotechnology drive the transformation to renewables-based aroma ingredients. Our products fulfill the highest safety, regulatory and sustainability standards. For more information, go to www.basf.com.

About BASF

At BASF, we create chemistry for a sustainable future. We combine economic success with environmental protection and social responsibility. Around 111,000 employees in the BASF Group contribute to the success of our customers in nearly all sectors and almost every country in the world. Our portfolio comprises six segments: Chemicals, Materials, Industrial Solutions, Surface Technologies, Nutrition & Care and Agricultural Solutions. BASF generated sales of €78.6 billion in 2021. BASF shares are traded on the stock exchange in Frankfurt (BAS) and as American Depositary Receipts (BASFY) in the U.S. Further information at www.basf.com.

About The Carbon Trust

The Carbon Trust is a global climate consultancy driven by the mission to accelerate the move to a decarbonized future. It has been pioneering decarbonization for more than 20 years for businesses, governments, and organizations. A leader in carbon footprinting, the Carbon Trust certifies products, organizations and value chains around the world.

¹ The lower product carbon footprint (lower PCF) of Geraniol Extra BMBcert™ is measured in a cradle-to-gate assessment taking into account all product-related greenhouse gas emissions and the biogenic uptake of the renewable feedstock used in the value chain and attributed to the products via a certified mass balance approach.

² According to OECD guidelines / https://www.oecd-ilibrary.org/environment/test-no-301-ready-biodegradability_9789264070349-en

³ Compared to 2018

⁴ BASF's product carbon footprint (PCF) calculations follow the requirements and guidance given by ISO 14067:2018. In a methodology review, TÜV Rheinland has certified that the PCF methodology SCOTT developed and used by BASF SE for calculating the PCFs of BASF products is scientifically-based, is in accordance with ISO 14067:2018, and reflects the state of the art ([ID-Nr. 0000080389: BASF SE – Certipedia](#)).