



Zero Ozone Emissions Validation

Consumers, regulators, and authorities prompt manufacturers to rely on independent third parties to show their products' limited impact on indoor air.

Trends and challenges

Over the last 30 years, building occupants have become increasingly aware of and interested in the indoor air quality of their homes, schools, offices, and other dwelling spaces. This mindset shift has generated a growing interest in air cleaning devices using various methods of operation, such as filtration, ionization, or ultraviolet light as part of standalone units or incorporated into the HVAC system.

However, some technologies used in air cleaning devices have the potential to create ozone. Ozone is a highly reactive gas that can be a powerful respiratory irritant on its own and can react with other compounds in the air to form harmful byproducts, according to the US EPA. Therefore, minimizing ozone concentrations in indoor spaces is crucial, especially during times of occupancy.

Engage with UL Solutions to validate the emission levels of your products

With increasing consumer awareness and pressure from regulators and authorities, it is important for manufacturers to work with independent third parties to show that their products fulfill indoor air ozone requirements.

Agencies like the California Air Resources Board (CARB) require many products to show ozone emissions below 0.050 parts per million volume air concentration (ppm) or 50 parts per billion (ppb) respectively, as tested to UL 867, the Standard for Electrostatic Air Cleaners. However, many authorities recommend even lower ozone emission levels. For instance, the Environmental Health Committee of the American Society of Heating, Refrigerating and Air-Conditioning Engineers, or ASHRAE, published [a report suggesting safe ozone levels to be below ten ppb.](#)

UL Solutions Environmental Claim Validation program for Zero Ozone Emissions from Air Cleaners (UL 2998) was created to help manufacturers ensure their devices' ozone levels stay below the quantifiable limit of detection of 0.005 ppm (5 ppb). This value represents the most stringent criteria available today and is 1/10 of the regulatory requirement of 0.050 ppm (50 ppb) ozone.

UL 2998 covers air cleaning products such as:

- Standalone air cleaning devices (electrostatic air cleaners, electronic air purifiers, etc.)
- Duct-mounted air cleaning devices like ionizers or UV lighting systems

Why choose UL Solutions

Built on UL Solutions century-long legacy of trust, we empower both manufacturers and purchasers to transform their environmental stewardship into true market leadership. We enable manufacturers to create better products in a more environmentally-responsible way, and enable customers to make smarter, more environmentally-preferable purchasing decisions. Moreover, UL 2998 standard Environmental Claim Validation Procedure (ECVP) for Zero Ozone Emissions from Air Cleaners is recognized by leading authorities as:

- Required for air cleaning devices by ASHRAE Standard 62.1-2019, Section 5.7.1
- [Recommended by the US EPA](#) for devices that use bipolar ionization technologies
- [Recommended by CDC](#) for air cleaning/disinfection devices that may produce ozone

Products that achieve UL 2998 may use our Environmental Claim Validation (ECV) badge on packaging and marketing materials providing you with a powerful deliverable that helps distinguish your product and provide market advantage. Additionally, validated products are featured on the [UL SPOT® Sustainable Products Database](#), a complimentary online tool that enables specifiers and other purchasers to identify products by product category, company name, product name or type of claim.

Contact Us for more information, send us an email: ulemarketing@ul.com
or visit www.ul.com/zero-ozone.



Safety. Science. Transformation.™

UL LLC © 2022. All rights reserved.