Guideline Values - Ozone in Indoor Air

Do you need independent advice regarding IAQ? As a leading company at the forefront of health and wellbeing we keep abreast with air quality rules worldwide and have up-to date knowledge about permissible Ozone (O_3) values for indoor applications.

It has to be emphasized that there are many anthropogenic sources of O_3. Any domestic or industrial appliance that is employing high voltage (ionizer, electrostatic precipitator (ESP), laser printer, high voltage electricity line), internal combustion engine (ICU), most UV light sources, to name a few, produce O_3 because of physical constraints. Potentially, they emit excessive amounts of O_3 which may reach humans or animals. To avoid any possible detrimental effects, the O_3 production must be negated by design, using abating devices (i.e. activated carbon filter), and/or by a limiting device (sensor, controller).

Permissible Indoor Air Values for Ozone

WHO	100µg/m^3 (50ppbv) (8 hour interval)	https://www.who.int/publications/i/item/9789240034228
Australia	100µg/m^3 (50ppbv) (8 hour interval)	https://www.abcb.gov.au/sites/default/files/resources/2022/Handbook-indoor-air-quality.pdf
Canada	40µg/m^3 (20ppbv) (8 hour interval) *(guideline value)*	https://www.canada.ca/en/health-canada/services/air-quality/residential-indoor-air-quality-guidelines.html
Hong Kong	Excellent: 50µg/m^3 (25ppbv) Good: 120µg/m^3 (60ppbv)	https://www.iaq.gov.hk/wp-content/uploads/2021/04/gn_officeandpublicplace_eng-2019.pdf
EU	120µg/m^3 (60ppbv) (8 hour interval)	https://environment.ec.europa.eu/topics/air_en
Switzerland	MAK: 200µg/m^3 (100ppbv) (8 hours interval)	SN EN 60335 Part 2-65: “Special requirements“ https://www.svlw.ch/images/literatur/300%20Grundlagen/340%20%C3%96ffentliche%20%C3%84mter/SECO_Ozon-grenzwert_Innenraum_18.03.2019_d.pdf

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USA	140µg/m^3 (70ppbv) (8 hour interval)	https://ww2.arb.ca.gov/resources/fact-sheets/air-quality-standards-ozone

Notes:

- Conversion factor for ozone @ 20°C, 1013hPa
  1 part per million (ppmv) equals to 1.9957mg/m^3 and 1mg/m^3 equals to 0.5011ppmv.
- ppbv: parts per billion by volume
- MAK: maximum workplace concentration (Maximum Arbeitsplatz Konzentration)

In order to optimize the IAQ and adhere to the limited values given by your application and particular jurisdiction, our IAQ Booster systems are customized. Thanks to its sophisticated setup with sensors and controller the cleaning action is modulated according to the momentary encountered conditions (prevailing pollutants, percentage of outdoor air entering the space, temperature, humidity, etc.) to obey the given constraints.

For any further questions, please do not hesitate to contact us.