

SANITATION PROCESSES

COMPARATIVE

We compare the different air purification systems based on 6 existing technologies on the market, taking **toxicity** in humans and the environment, their **cost and speed**, and their **authorized** use to fight against **COVID-19** as the main factor of analysis.



STATIC

OZONE O₃



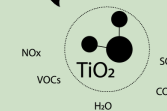
FUMIGATION / CHEMICAL NEBULIZATION



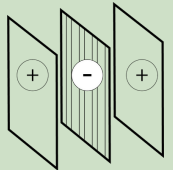
DYNAMIC



PHOTOCATALYSIS



ELECTROSTATIC FILTRATION



UV FILTRATION



MECHANICAL FILTRATION








SANITATION PROCESSES

We compare the different air purification systems prioritizing their toxicity to humans and the environment, in addition to their authorized use for COVID-19.

COMPARATIVE



DYNAMIC PROCESS	TOXICITY	USE IN THE PRESENCE OF PEOPLE	COST / SPEED OF EFFECTIVENESS	AUTHORIZES USE FOR COVID-19
MECHANICAL FILTRATION	 It is not toxic	YES	MEDIUM / HIGH	 Advisable, standard product EN1822
ELECTROSTATIC FILTRATION	 It is not toxic	YES	MEDIUM / MEDIUM-HIGH	Not explicitly, pending evaluation by the authorities.
PHOTOCATALYSIS	 It is not toxic	YES	LOW / MEDIUM-HIGH	Not explicitly. With restrictions and pending evaluation by the authorities.
UV FILTRATION	 Toxic with human presence	YES, WITH CAUTION	LOW / MEDIUM-HIGH	Not explicitly, pending evaluation by the authorities.
STATIC PROCESS	TOXICITY	USE IN THE PRESENCE OF PEOPLE	COST / SPEED OF EFFECTIVENESS	AUTHORIZES USE FOR COVID-19
OZONE	Harmful to human health (> 0.5ppm) and the environment	NO	MEDIUM / HIGH	Not explicitly. With restrictions and pending evaluation by the authorities.
FUMIGATION / CHEMICAL NEBULIZATION	Risk of chemical reactions and inflammations depending on the compound	NO	LOW / HIGH	Not explicitly. With restrictions and pending evaluation by the authorities.

SANITATION PROCESSES

We compare the different air purification systems according to their operating principle, the object of action and the way of application.

COMPARATIVE



DYNAMIC PROCESS	PRINCIPLE	OBJECT	WAY OF APPLICATION
MECHANICAL FILTRATION	Air filtration through fibers of different types and configurations	Retention of small solid suspended particles: insects, smoke, pollen, bacteria, viruses, etc.	Filters in ventilation systems
ELECTROSTATIC FILTRATION	High voltage electrostatic charge air filtration	Capture of previously ionized particles and reduction of atmospheric pollution	Filters in ventilation systems
PHOTOCATALYSIS	Photochemical reaction that converts solar energy into chemical energy	Degradation of air pollutants, volatile organic compounds and particles of biological origin	Photocatalyst
UV FILTRATION	UV-C band ultraviolet light	Inerting viruses, bacteria and other pathogens	Germicidal equipment with a wavelength of 254 nm
STATIC PROCESS	PRINCIPLE	OBJECT	WAY OF APPLICATION
OZONE	Oxidation power of disassociated oxygen molecules	Disinfection of viruses, bacteria, fungi and chemical contaminants in liquids	From 20ppm to 80ppm with ozone cannon
FUMIGATION / CHEMICAL NEBULIZATION	Chemical treatments: chlorine, sodium hypochlorite, chloramines, bromine, hydrogen peroxide, etc.	Prevents the spread of bacteria and viruses	Centralized or located in a focus, or steam