



LAB AIR

S O L U T I O N



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BIOMEDICAL WASTE

a worldwide public health and environmental issue

Health care responsibility is to save life but what about its environmental impact with all by-products and waste generated through its activity?

Laboratories management is constantly confronted with constraints surrounding disposal waste that may be hazards for it staff and the environment. Countries are enforcing new EPA norms and regulations, and there is a clear momentum towards ensuring our place of work respects the environment we live in and progress is made towards carbon footprint reduction.

LAB AIR has been designed to help in reducing the exposure of your staff to toxic chemicals or micro-organisms that may circulate in the air. The LAB AIR solution will:

- Neutralization and inactivate microorganisms
- Reducing Volatile Organic Compounds or VOC



**FULLY
AUTOMATED**



SAFE



**ECO
FRIENDLY**

ABOUT MAUMEE SCIENTIFIC

Maumee Scientific is a Swiss startup company dedicated to tackling the environmental challenges faced in the medical industry.

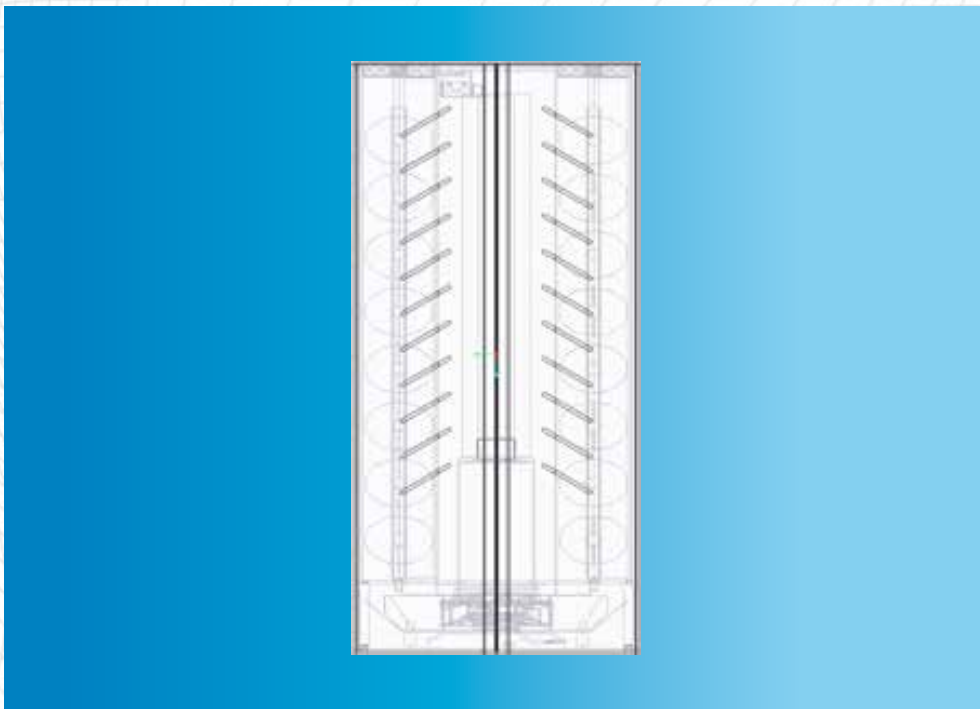
Our goal is to introduce new technologies that are environmentally friendly and provide solutions for waste discharge that suits any medical environment.

LAB AIR

SOLUTION

PROCESS DESCRIPTION

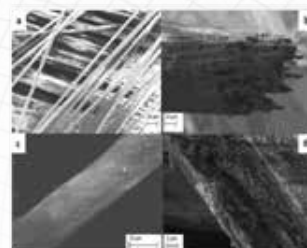
The **LAB AIR** is based on photocatalytic principle. After particle filtration, the air inside the system circulates in a turbulent manner with help of a fan. Inside the reactor the air touches the surface of the coated glass velvet (patented technology) which is irradiated by a Uvc lamp. The pollutants are adsorbed by the coated glass velvet and deteriorated through the photocatalytic principle of the Uvc lamp.



The **LAB AIR purification system** itself is patented (FR 2980369) as well as the innovative coated velvet inside (FR2990446) called TiO₂.

The glass velvet is made of a fibrous material, totally mineral, which is constituted of long amorphous silica fibers for a perfect stability under Uvc radiation.

The fibers are coated with a layer based on titanium dioxide that offers a large surface, highly photocatalytic, which reinforces the adsorption of pollutants.



KEY BENEFIT of the LAB AIR solution

ENVIRONMENTALLY FRIENDLY

- Compact and low footprint
- No usage of chemicals
- Turns your Laboratory to Eco Friendly solution

ECONOMICAL

- Competitive investment for the air volume treated
- No consumables required to operate (such as carbon filters etc....)
- Mobile unit that can be moved based on needs

SAFE

- Provides a safer work environment for your laboratory staff
- Eliminates smell or bad odors in laboratories to chemicals

TECHNOLOGY

- Patented technology combining UVc and coated glass velvet
- Reduces VOC and eliminates microorganisms in the ambient air

WHERE IS THE LAB AIR SOLUTION APPROPRIATE FOR?

The **LAB AIR** solution was initially designed to fit to Clinical and Hospital laboratories such as Biochemistry, Hematology, Microbiology, Histopathology. It can also be installed in research laboratories or specialty test laboratories (Food, Agriculture, Blood banks, Anti-Doping), where either Indoor Air quality gets deteriorated by Volatile Organic Compounds.



Clinical & Hospital laboratories



Research laboratories



Specialty test laboratories

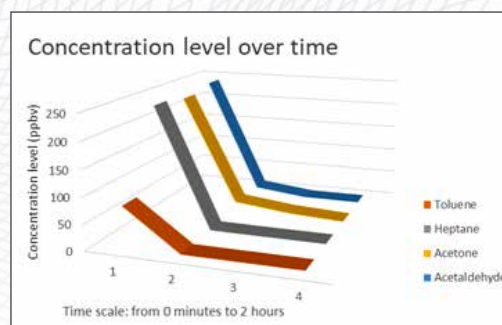
VOLATILE ORGANIC COMPOUND (VOC)

Tests results with lab air (according to french norm b44-13)

TEST PERFORMED ON THE FOLLOWING POLLUTANTS (solvents)				
Solvent class Level*	2	3	3	3
Time Parameter / Solvent Type	Toluene	Heptane	Acetone	Acetaldehyde
Concentration level at T0	78,4	235,9	226,8	239
After 30 minutes (T-30)	0,4	0,9	18,1	12,1
After 2 hours (T-120)	0,2	0,2	5,7	<QL
After 6 hours (T-360)	<QL	<QL	<QL	<QL
QL = Quantitative limits	0,2	0,2	5	5

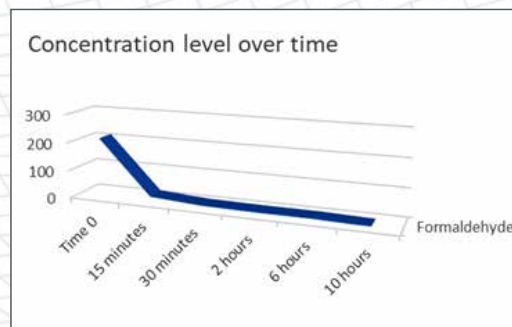
*Solvent class level: Source www.uspnf.com (United State Pharmacopeia).

TABLE 1. Classification of residual Solvents and their Assessments	
Residual solvent classes	Assessments
Class 1 (solvents to be avoid)	Known human carcinogens
	Solvents particularly known to have ozone-depleting properties
Class 2 (solvents to be limited)	Nongenotoxic animal carcinogens or possible causative agents of other irreversible toxicity, such as neurotoxicity or teratogenicity
	Solvents suspected of other significant but reversible toxicity
Class 3 (solvents with low toxic potential)	Solvents with low toxic potential to humans; no health-based exposure limits is needed



TESTS PERFORMED ON FORMALDEHYDE

CONCENTRATION LEVEL IN PPBV	
Time Scale	Formaldehyde
0 minutes	212
15 minutes	18,3
30 minutes	6,6
2 hours	4,3
6 hours	<QL
10 hours	<QL
QL = Quantitative limits	4,1



LAB AIR
S O L U T I O N

TECHNICAL SPECIFICATION

DIMENSIONS	Hight 994mm - Wight. 237mm - Length: 483 mm
MATERIAL	Aluminum
INSIDE	<ul style="list-style-type: none"> • Double reactor with Uvc Technology and TiO2 • Uvc power lamp: 2 x 75W (life time: 9000 hours) • Particle fiter
THROUGHPUT	100 m3 per Hour
ELECTRICITY	220v /50Hz - Power 175W



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