Dott. Francesco ALBRIZIO
CHIMICO
Ordine dei Chimici della Provincia di Treviso n. 98

The European Chemist
Registration Board n. 571

Report n° 01/MK

Date of sampling: 07th October 2016

Company:	Brentareno S.r.L., via Enrico Fermi n° 31 ASOLO (TV)
Machine	"Ecozono" machine
Operating conditions of the machine:	"soft" cycle – "strong" cycle – near the door, after opening door
Purpose of sampling:	determination of the amount of O_3
Equivalence	0,1 ppm is equal a 0,2 mg/m^3. Reference: 25 °C

"Soft" cycle (introduction of ozone: 4 minutes. Elimination of ozone: 10 minutes)

Beginning of cycle. Measurement of ozone inside the machine after 3,5 minutes	20 ppm
End of cycle. Measurement of ozone inside the machine after 10 minutes	0,6 ppm

"Strong" cycle (introduction of ozone: 5 minutes. Elimination of ozone: 20 minutes)

Beginning of cycle. Measurement of ozone inside the machine after 4,5 minutes	20 ppm
End of cycle. Measurement of ozone inside the machine after 20 minutes	0,6 ppm

After opening the door. "Soft" cycle

Value of O_3 detected at a distance of 20 cm from the machine right after opening the door at the end of cycle: < 0,05 ppm

Methods of sampling and analysis:

Gastec direct-read detector tubes (range 0,025 ÷ 3 ppm e 20 ÷ 200 ppm)

OBSERVATION

The maximum concentration allowed in working environments **with an exposition of 8 h/day per week (5 days) is equal to** 0,2 ppm.

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From the "L'Enciclopedie des gaz", by Elsevier/Air liquide, we report the following table (page 1134):

Effects on humans	O_3 concentration (ppm)
Odour threshold	0,01 ÷ 0,03
Strong odour. Inhalation for 20 ÷ 25' can cause headache	1
Inhalation for 15' ÷ 20' can cause a feeling of nose burning	1,3 ÷ 1,5
Inhalation for 5' causes throat burns	2
Inhalation for 20' causes more violent throat irritation	2
Maximum tolerable exposition for 3 hours	3
Likelihood of serious accidents	10

Given the collected data and the condition of use, "Ecozono" machine is harmless to humans, taking into consideration a possible inhalation of residual ozone by the user and the contact of residual ozone with skin and fabrics.

Vittorio Veneto, 10th October 2016

Valida a tutti gli effetti di Legge in base a R.D. 1/3/1928 n. 842

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