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**LCIE SUD EST**  
Laboratoire de Moirans  
Z.I. Centr'Alp  
170, Rue de Chatagnon  
38430 MOIRANS - FRANCE

## GENERAL INFORMATION

FCCID: 2AS3B-TRIKLORAME

### 1.1. Product description



### NEW PORTABLE MEASUREMENT OF TRICHLORAMINE IN THE AIR

Fast - Simple - Effective  
Direct reading of the rate in  $\text{mg}/\text{m}^3$



Specialist in water treatment analysis, control & management

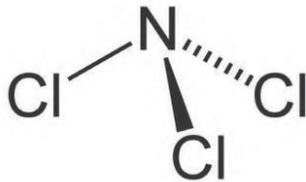
**SYCLOPE**  
Electronique



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## TRIKLORAME

TRICHLORAMINE IN THE AIR : A REAL HEALTH PROBLEM



### TRICHLORAMINE IN THE AIR

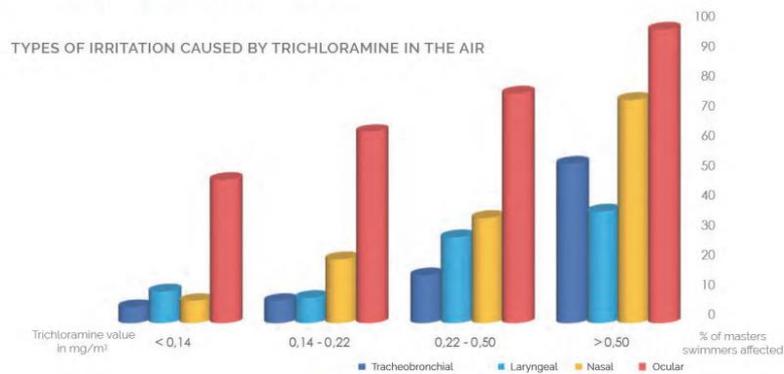
Trichloramine belongs to the Chloramine family and is developing during the combination of chlorine products used for disinfection of water and nitrogen pollution made by organic derivatives (sweat, saliva, urine, bacteria, sun cream, animal or plant debris, sap...)

Trichloramine is a highly volatile substance, irritating for breathing system, eyes and skin, recognized as occupational diseases in «Occupational Asthmas and Rhinitis» category (French decree 2003-110 of 11/02/2003)

### CURRENT REGULATIONS

- Analysis requirement for swimming pools equipped with a UV dechlorinator (DGS : EA4 2008-65 du 22/02/2008)
- Obligation to prevent and analyze occupational risks according to the labor code
- Table of occupational diseases, category « rhinitis and asthma » - decree 2003-110 of 11/02/2003)
- ANSES (National Agency for food, environment and work safety) recommends to integrate to the sanitary control the monitoring of trichloramine in the air with a limit value of 0,3 mg/m

### A REAL HEALTH PROBLEM



# 80%

of consulted master swimmers suffer from eye irritation\*

\* pools with a trichloramine in the air level between 0.22- 0.50 mg/m<sup>3</sup>



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For 10 years SYCLOPE Electronique collaborates with the INRS (National Institute of Research and Security) on the problem of trichloramine in the air measurement in order to propose a reliable tool for determining the exposure rate.

Recognizing the importance of health problems caused by trichloramine in the air, these two entities decided to optimize the existing analysis equipment by making a new one simpler in use, faster in its execution, more reliable and effective. This new portable measurement tool, **TRIKLORAME**, determines the level of trichloramine in the air in a clear and simplified way in order to implement the preventive or corrective actions necessary to better protect the exposed persons.



### ADVANTAGES

- Simplified portable measurement of trichloramine in the air
- Faster and more efficient measurement requiring little manipulations
- The most accurate self-checking and prevention system of the market
- Total autonomy in controlling trichloramine levels
- No chemicals to handle
- Clear and precise display in  $\text{mg}/\text{m}^3$
- Optimum measurement quality
- Patented by the INRS

## IMPORTANT : A REGULAR FOLLOW-UP OF TRICHLORAMINE IN THE AIR LEVEL

### PREVENTION AND CORRECTIVE ACTIONS

- 1- Specific and regular measures to respond to an immediate problem (following a complaint from a master swimmer or users...) with a return to action within 1h
- 2- Occupational Exposure Limit Value with a measurement over 8h
- 3- Mapping risk areas of the pool to implement prevention and corrective actions





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### COMPOSITIONS

- Portable measuring device of trichloramine
- Sampling device
- Sampling pellets
- Using tools
- Non-chemical reagent



Contained in a suitcase  
Possibility of 20 samples



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## 1.2. Tested System Details

### Equipment under test (EUT):

- EUT 1 : **TRIKLORAME**
- EUT 2 : **DOSIMETER**
- Serial Number of the EUT 1 : **190301623**
- Serial Number of the EUT 2 : **190301653**
- Model under test of the EUT1: **PCC0029**
- Model under test of the EUT1: **CHM0072**



Equipment Under Test 1 : TRIKLORAME



Equipment Under Test 2 : DOSIMETER

### Power supply:

During all the tests, EUT is supplied by  $V_{nom}$ : 3 VDC and 3,6VDC

For measurement with different voltage, it will be presented in test method.

Name	Type	Rating	Reference / Sn	Comments
Supply1	<input type="checkbox"/> AC <input type="checkbox"/> DC <input checked="" type="checkbox"/> Battery	3VDC	-	EUT1
Supply2	<input type="checkbox"/> AC <input type="checkbox"/> DC <input checked="" type="checkbox"/> Battery	3,6VDC	-	EUT2



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**Inputs/outputs - Cable:**

Access	Type	Length used (m)	Declared <3m	Shielded	Under test	Comments
<b>None</b>						

**Auxiliary equipment used during test:**

Type	FCC Id	Reference	Sn	Comments
<b>None</b>				

**1.1. EUT CONFIGURATION – RUNNING MODE**

Hardware information			
Highest internal frequency (PLL, Quartz, Clock, Microprocessor...):	F <sub>Highest</sub> :	16	MHz
Firmware (if applicable):	V. :	1.0	
Software (if applicable):	V. :	Not applicable	

**Configuration n°1:**

Based on firmware V1.0, the software has been modified to make continuous measurements with an operating cycle of less than 3s.

A resistance of 39K +/- 1% is soldered between the 2 terminals of the contacts which connect the measurement vial to the device in real case. This resistance is there to simulate the measurement vial.

**1.3. Test Methodology**

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4 or/and ANSI C63.10, FCC Part 15 SubPart 15B.

Radiated testing was performed at an antenna to EUT distance of 10 meters. During testing, all equipment's and cables were moved relative to each other in order to identify the worst case set-up.

**1.4. Test facility**

Tests have been performed: **January 22, 2019 to January 24, 2019**

This test facility has been fully described in a report and accepted by FCC as compliant with the radiated and AC line conducted test site criteria in ANSI C63.4 or/and ANSI C63.10.

This test facility has also been accredited by COFRAC (French accreditation authority for European Union test lab accreditation organization) according to NF EN ISO/IEC 17025, as compliant with test site criteria and competence in 47 CFR Part 15/ANSI C63.4 and EN55032/CISPR32 norms for 89/336/EEC European EMC Directive application. All pertinent data for this test facility remains unchanged.