

**PLEASE TAKE NOTE: THIS IS AN EXTRACT FROM THE STUDY
PROTOCOL**

Study Protocol

Determination of the effectiveness of F10SC Disinfectant
properties on a Protozoa containing water standard

Study Sponsor

Health and Hygiene (Pty) Ltd.
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Performing Laboratory

Magalies Water
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Date

2021-09-13

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1 Background

1.1 Testing Laboratory — Magalies Water

Magalies Water Board provides water services to Water Authorities, Water Services Institutions and other users to positively impact the quality of life and economic growth for convenience in their areas of operation. Magalies Water reports to the Minister and the Department of Water and Sanitation (DWS) in South Africa and abides by the National Water Act, 1998 (Act 36 of 1998), Water Services Act (Act 108 of 1997) and the Regulations of the National Water Act, 1998 (Act 36 of 1998).

The Magalies Water Scientific Services is a SANAS 17025 accredited laboratory (T0625) that offers the water industry a wide variety of services in the fields of chemical and microbiological analyses, as well as expert advice on water-related problems. Water supply from Magalies Water is tested every two hours at the treatment plants to ensure compliance to SANS drinking water specifications on turbidity (clarity), stability (pH control) and disinfection (chlorine concentration). This compliance monitoring is done in accordance with SANS 241: Class 1 drinking water standard.

The practical implication of the SANAS ISO 17025 accreditation of the laboratory is that the laboratory has to comply with the prescribed International Standard. It also means that all analytical methods and the results that are achieved from it are on record and traceable to International Standards and validated methods.

1.2 Methods

The study protocol is based on two methods. The sample preparation and contact time is based on the international method **EN 1276 or SANS 51276 Chemical Disinfectants and antiseptics — Quantitative suspension test for the evaluation of bactericidal activity of chemical disinfectants and antiseptics used in food, industrial, domestic and institutional areas — Test method and requirements (phase 2, step 1)** while the analysis stage of the test is based on another international method **USEPA, (1999). Method 1623: Cryptosporidium and Giardia in Water by Filtration/ IMS/ FA. Office of Water, Washington, D.C., EPA-821-R-99-006.**

2 Purpose

The purpose of this Study Protocol is to describe the testing activity for the determination of the effect of a disinfectant product on the Giardia cyst and Cryptosporidium oocyst cell structure.

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Business Management Study Protocol Protozoa Testing



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2.1.1 Reference Material

Certified Reference Material Batch Number: B729

Organism: *Cryptosporidium parvum*

Strain: Iowa

Organism: *Giardia lamblia*

Strain: H3

2.2 Procedure

Prepare separate test suspensions containing a known amount of Test organisms (one suspension will be used as control).

Overall dilution rate is 1:100 of the F10SC Disinfectant.

Conclusion

As per the attached result report no traces of *Cryptosporidium* or *Giardia* were detected (ND) in the water sample after the 60-minute treatment with a 1:100 diluted F10SC Disinfectant product.

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Water Quality Analysis Report

Report date: 2022-09-14 Attention: Liana Swanepoel
Samples received: 2021-09-13 Tel:
Certificate Number: 2021-69763-26467 E-mail:
Order Number: PO2707

Comment: Final report.

Sample matrix			Synthetic/Spiked sample	Synthetic/Spiked sample
Sample condition			Normal	Normal
Sample number			69763	69764
Sample date			2021-09-13	2021-09-13
Analysis start date			2021-09-15	2021-09-15
Analysis completion date			2021-10-11	2021-10-11
Identification on container			B729 after 60 min treatment with F10	B729 before treatment with F10
Determinand	Unit	Method Number	Results	Results
Giardia cysts	count/1mL	MLM007	ND	80

ND = Not detected

Remarks: ^Study Protocol Number (TPC K01).

Lot number B729 was used, please see COA for details.

Test were done using 1:100 dilution of the concentrated F10 product.

Technical Signatory(Chemistry): N/A

Technical Signatory (Micro): Kefilwe Nduli

Signature: N/A Date: N/A

Signature:  Date: 14/09/2022

Disclaimer: The information contained in this report is relevant only to the sample (s) tested by Magalies Water Laboratory and the results apply to the sample as received. Any further use of the above information is not the responsibility of Magalies Water Laboratory. Except for the full report, part of this report may not be reproduced without written approval of Magalies Water Laboratory. "Method numbers" refers to our internal methods. Standard methods are available on request. Only chemistry samples will be kept for one month after date of reporting. Tests marked with * in this report are not included in the SANAS Schedule of Accreditation for this laboratory. Test marked with ^ is information that is provided by the customer. The validity of results can be affected when the information is supplied by the customer. Tests marked with # in this report are subcontracted and not included in the SANAS Schedule of Accreditation for this laboratory. Opinions and interpretations expressed herein are outside the scope of SANAS accreditation for this laboratory. When sampling is done by the laboratory it will be done according to P010, which will be made available upon request. When a statement of conformity to a specification or standard is provided, the laboratory shall document the decision rule employed, taking into account the level of risk associated with the decision rule employed, and apply the decision rule. Decision rule will only be applied upon request by the customer. Results contained in this report were performed at the laboratory's permanent facilities. Any deviations, additions to, or exclusions from the method will be noted under remarks in this report.