Test Report No. 8912268222/b

in accordance with Clause 12 of the Standards Law (1953)

Details of order:

The test was ordered by :Pazkar Ltd., Attn: Dr. Nitsa Galili
Address: POBox 2030, Alon Tavor Industrial Park, Afula 18000, ISRAEL
Date of order: 25/11/2009 **Your order no.** R9002101 **dated** 22/11/2009

Description of product:

Paste sealant and coating material for cold water collector applications.
Supplier and manufacturer: Pazkar Ltd. Country of manufacture: Israel
Commercial name: INOPAZ H_2O
Classification to exposure ratio groups for testing: : Products intended for application in collector installations of a volume greater than 1 m^3, exposure ratio 6,000 mm^2/liter.

Sampling details:

The sample was taken on: 10/2009 (according to the customer's declaration)
Sampler: the **customer**
Sampling location: Supplier's plant The sample arrived at SII on 25/11/2009
Description and quantity of items: Approximately 30 sections of the product of dimensions 105×100×1 mm

Nature of test:

Full test for compliance with the requirements of Israel Standard SI 5452 (2008) "Testing of products for use in contact with drinking water", at the request of the customer.

This report contains 6 pages and may be used only in full.

The test results in this document refer only to the item tested.

Test conclusions:

The abovementioned product complies with the requirements of Israel Standard SI 5452 (2008) for use at temperatures up to 40 °C for application in collector installations of a volume greater than 1 m^3.Complete details of the results are found on the following pages of this document.

This document is not valid without a Technical Specification of the supplier no. 944002 dated 21.04.2010

Inspector: Assaf Amram
Position: Test engineer
Date of signature : 02/06/10

In charge: Eli Lichman
Position : Acting Head of Food and Wine Section
Date of signature: 02.06.10

Date of printing report: 02/06/10

This is an abridged translation of the Hebrew original. In any case of discrepancy between the original Hebrew text and the English translation, the Hebrew version shall prevail.

This document is not approval for marking the product with the Standards Mark

1. Specification of product tested:

1.1 General information

Marking of product tested / Commercial name	**Applied material "INOPAZ H_2O"**
Product function	Sealing of tanks and collector installations
General composition of the product and test specimen	Paste after drying, consisting of several raw materials
Main components: Samples and raw material suppliers declared by the test customer	See Technical Specification of supplier, no. 422002 dated 21/04/2010
Manufacturing date / Manufacturing batch	422-1-109
Product samples prepared by	The customer
Manner of sample packaging	Packaged in cartons, silicone paper partitions between samples
Status of samples upon receipt in the laboratory	As required
Storage conditions in the laboratory prior to testing	Ambient temperature in the dark
Components of product coming in contact with water	Complete surface of the product
Description of product family:	Single model

1.2 Construction of sample and exposure characteristics:

Sample configuration: Structure	Specimens on cut wax paper pieces prepared for testing
Sample configuration: Dimensions	75 × 100 × 1 mm mm (after cutting specimens in the SII laboratory)
Sample appearance: Shade	White
Sample appearance: Finish	Homogeneous and smooth material
Type of exposure to water extract	By immersion
Other operations in preparation of product for testing/use according to manufacturer's definition	None

1.3 Assembled finished products:

Description of assembly / test system	Not applicable

1.4 Applied products:

Method of sample preparations	See application instructions in the Technical Specification of supplier, no. 422002 dated 21/04/2010
Mix ratio of elements	
Details of applied layers	
Site of sample preparations	
Details of curing conditions	
Details of conditioning prior to testing	

2. Summary of findings according to the clauses of the Standard:

Clause no.	Clause heading	Clause requirements	Results	Conclusion
6	**Test requirements**			
6.2	**Taste of water extract**	When the product is tested in accordance with the method specified in the Standard **BS 6920-2.2.1**, the product shall meet the following requirements: 1. At least two-thirds of the taste panel shall not report any detectable odor in the test extract and any taste in the first test dilution of the final chlorinated or unchlorinated extract. 2. None of the taste panel members shall report the presence of taste in the secondary dilutions.	**As required(1)**	**Complies**
6.3	**Appearance of water extract**	When the product is tested in accordance with Appendix **D**, the increase in true colour units of the water extract in the first extract or in the seventh extract of the retest shall not be more than **5 HU (Hazen Units)**.	**As required(1)**	**Complies**
		When the product is tested in accordance with Appendix **D**, the increase in turbidity in the first extract or in the seventh extract of the retest shall not be more than **0.5 NTU**.	**As required(1)**	**Complies**
6.4	**Growth of aquatic micro-organisms(2)**	When the product is tested in accordance with Appendix **E**, the mean dissolved oxygen difference (**MDOD**) shall be less than or equal to **2.4** mg/L.	**As required(1)**	**Complies**
6.5	**Cytotoxic activity of water extract(2)**	When the product is tested in accordance with Appendix **F**, the extract shall not cause a cytotoxic response.	**As required(1)**	**Complies**
6.6	**Mutagenic activity of water extract(2)**	When the product is tested in accordance with Appendix **G**, the test results shall be reported. The extract shall not cause a response to mutagenic activity.	**As required(1)**	**Complies**
6.7	**Extraction of the regulated elements**	When the product is tested in accordance with Appendices **H** to **J**, the amounts of antimony, arsenic, barium, mercury, molybdenum, beryllium and thallium in the first and/or seventh extract shall not exceed the maximum values given in Table no. 2 of SI 5452 (2008).	**As required(1)**	**Complies**
7	**Hot water tests**	Products that successfully pass the tests required in Appendix **I**, **J** and **K** shall be deemed to comply with the hot water requirements up to the temperature used in the test.	**Not applicable**	–

(1) See the combined results in the following tables in this report.
(2) Performed in an external laboratory. See report no. 61412/2 of the subcontractor.

3. Details of the findings according to the test clauses:

3.1 Taste of water extract

Marking of product tested / Commercial name	Applied material "INOPAZ H_2O"
Property tested / indicated	*Details of indicated model*
Exposure ratio of the product in the test (mm^2/L)	6000
Dilution factor used for the test	1.0

No. of samples exposed for each type of extract	1	Organization of taste panel	8 participants
Description of extract on which the test was performed		first (24 hours), 7th (9 days)(unchlorinated only)	

Test findings:

Extract	Type of test		Findings	Summary
Un-chlorinated extract No. 1	**Odor test**		**No odor reported**	**Complies with requirements of the Standard**
	Taste test	First dilution	**No taste reported**	**Complies with requirements of the Standard**
		Second dilution	**No taste reported**	**Complies with requirements of the Standard**
Chlorinated extract No. 1	**Odor test**		**Report of odor**	**Does not comply with the requirements of the Standard**
	Taste test	First dilution	**Report of taste**	**Does not comply with the requirements of the Standard**
		Second dilution	**Report of taste**	**Does not comply with the requirements of the Standard**
Chlorinated extract No. 7	**Odor test**		**No odor reported**	**Complies with requirements of the Standard**
	Taste test	First dilution	**No taste reported**	**Complies with requirements of the Standard**
		Second dilution	**No taste reported**	**Complies with requirements of the Standard**

Summary of test	**Met the requirements of not transmitting odor and taste to the water extract relative to the test exposure**

3.2 Appearance of water extract

Model tested	Applied material "INOPAZ H_2O"
Property tested / indicated	*Details of indicated model*
Exposure ratio of the product in the test (mm^2/L)	6000
Scaling factor used in the test	1.0
No. of Replicates	2

-The following are the test findings:

Property tested	**Measuring units**	**Threshold for reporting the method**	**Maximum permitted value for migration from the test sample**	**Result for reporting in the extracts**	
				Blank	From the test sample in comparison to the blank
True colour change in the water extract	*Hazen Units*	1	5	1	**Less than 1**
Increase in turbidity in the water extract	*NTU*	0.10	0.50	Less than 0.10	**Less than 0.10**

Summary of test	**Met the requirements for increase in colour and turbidity**

3.3 Micrbiological tests (performed by a subcontractor)

Marking of product tested / Commercial name	Applied material "INOPAZ H_2O"		
Product marking in agreement with subcontractor	68222WB		
Type of test	Growth of aquatic microorganisms	Cytotoxic activity of water extract	Mutagenic activity of water extract
Exposure ratio of the product in the test (mm^2/L)	6,000	6,000	6,000

3.3.1 Growth of aquatic microorganisms

Description of property	**Mean Dissolved Oxygen Difference (MDOD)**
Test requirements	Shall be less than or equal to 2.4 mg/L
Findings for solutions of the product tested	**Mean value – 1.9**

Test summary	**The product met the requirements for growth rate of the microorganisms**

3.3.2 Cytotoxic activity of water extract

A. The qualitative determination using a microscope:

Description of property	**Morphological findings of the cells**	**Confluent monolayer findings**	**Color of the culture – complementary information**
Test requirements	No significant loss of the round shape by the cells / There are no irregular shaped cells	Cells are growing in a bound, dense and continuous layer	The color of the culture shall be red (indicates a basic environment)
Findings for cultures prepared on a water extract base	**As required for all the cultures for all the growth periods**	**As required for all the cultures for all the growth periods**	**As required for all the cultures for all the growth periods**

B. The quantitative determination by an endpoint assay:

Description of property	**Mortality percentage of the cells**
Test requirements	The cell death percentage shall not exceed 30 for any of the tested cultures
Findings for cultures prepared on a water extract base from the test product.	**Less than 30 in all the cultures for all the growth times: growth time of 24, 48 and 72 hours**

Test summary	**A cytotoxic response was not caused**

3.3.3 Mutagenic activity of water extract

Bacterial strain	**Without addition of metabolic activation**		**With addition of metabolic activation**	
	Maximum number of mutations according to a negative control sample	Mean number of mutations for extract water from the sample	Maximum number of mutations according to a negative control sample	Mean number of mutations for extract water from the sample
Salmonella typhimurium TA98	*20*	20	*48*	39
Salmonella typhimurium TA100	*206*	111	*81*	76
Salmonella typhimurium TA102	*362*	231	*232*	118

Test summary	**It was found that with and without the presence of metabolic activation, there is no evidence of a mutagenic effect created as a result of extraction with the product**

3.4 Extraction of the regulated elements

Sample tested	Applied material "INOPAZ H_2O"
Property tested / indicated	*Details of indicated model*
Exposure ratio of the product in the test (mm^2/L)	6000
Scaling factor used for the test	1.0
Determination methods in accordance with that described in the Methods File	Standard Methods for the examination of water and wastewater 21st edition (2005)
Threshold value of detection indicated for each element refers only to the sample tested by the indicated method alone.	

The test findings are given below:

Element tested	**Determination method**	***Measure-ment units***	**Method Reporting Limit**	**Maximum allowed value for migration of the element**	**Element migration findings for extract water**	
					First (24 hours)	
					Blank	From test sample compared to the blank
Mercury (Hg)	AWWA SM3112	*mg/l*	0.0002	0.001	Less than MRL	**Less than MRL**
Beryllium (Be)	AWWA SM3112	*mg/l*	0.0005	0.004	Less than MRL	**Less than MRL**
Thallium (Tl)	AWWA SM3112	*mg/l*	0.002	0.002	Less than MRL	**Less than MRL**
Arsenic (As)	AWWA SM3112	*mg/l*	0.001	0.050	Less than MRL	**Less than MRL**
Selenium (Se)	AWWA SM3112	*mg/l*	0.001	0.010	Less than MRL	**Less than MRL**
Antimony (Sb)	AWWA SM3112	*mg/l*	0.002	0.006	Less than MRL	**Less than MRL**
Lead (Pb)	AWWA SM3112	*mg/l*	0.001	0.010	Less than MRL	**Less than MRL**
Cadmium (Cd)	AWWA SM3112	*mg/l*	0.0002	0.005	Less than MRL	**Less than MRL**
Silver (Ag)	AWWA SM3112	*mg/l*	0.001	0.010	Less than MRL	**Less than MRL**
Chromium (Cr)	AWWA SM3112	*mg/l*	0.005	0.050	Less than MRL	**Less than MRL**
Nickel (Ni)	AWWA SM3112	*mg/l*	0.005	0.050	Less than MRL	**Less than MRL**
Barium (Ba)	AWWA SM3112	*mg/l*	0.010	1.000	Less than MRL	**Less than MRL**
Molybdenum (Mo)	AWWA SM3112	*mg/l*	0.010	0.070	Less than MRL	**Less than MRL**

Test summary	**Complied with the extraction requirements of the regulated elements**

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