Intertek House, Cleeve Road
Leatherhead, Surrey
KT22 7SB, United Kingdom

Telephone: +44 1372 370900
Facsimile: +44 1372 370999
www.intertek.com

Test Report

REPORT NO. MA4703/Y

Ion exchange resin

Filtersorb SP3

CLIENT:
Watch GmbH
Fahrlachstr. 14
D-68165 Mannheim
Germany

reported by:

MICHAEL DAY
MATERIALS CHEMIST

DATE: 9 APRIL 2013

reviewed by:

CLIENT'S REFERENCE: JR181212

HANNAH SNELL
TEAM LEADER, MATERIALS

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation

SUITABILITY OF NON-METALLIC PRODUCTS FOR USE IN CONTACT WITH WATER INTENDED FOR HUMAN CONSUMPTION WITH REGARD TO THEIR EFFECT ON THE QUALITY OF THE WATER
WRAS TESTS OF EFFECT ON WATER QUALITY (BS 6920: 2000)
HIGH TEMPERATURE TESTS (BS6920: PART 3: 2000)

INFORMATION AND GUIDANCE NOTE

WATER REGULATIONS ADVISORY SCHEME

The Scheme wishes to draw to the attention of product manufacturers and users that reports issued by accredited test laboratories do not of themselves constitute approval by the Scheme or the test laboratory. Only a letter from the Scheme, citing a Directory Reference Number, can be regarded as indicating approval.

1. SAMPLES FOR TESTING

General composition of product	ion exchange resin
Trade name and reference of material	Filtersorb SP3
Material manufacturer	Watch GmbH, Germany
Submitting organisation	Watch GmbH, Germany
Batch number of product	A1 16.12.12
Date of manufacture of product	14 December 2012
Description of sample	2g of white, opaque beads
Method of manufacture of sample	information not provided
Sampling procedure	taken from stock
Surface area of test piece	N/A
Calibration mark of test containers	1 litre
Date of application	11 December 2012
Date of receipt of test samples	17 December 2012
Condition of samples on receipt	satisfactory
Method of packaging	plastic pot
Conditions of storage of the samples between receipt and testing	as instructed in BS6920-2.1: 2000: clause 5.2
Proposed use of the product	water filtration

2. ODOUR AND FLAVOUR OF WATER

Extraction temperature - 85°C

Date test commenced – 29 January 2013

Number of tasters in the taste panel – 3

Extract 1

(i) chlorine free test water:

Taster	Odour description	Flavour description	Flavour dilution number
1	nil	nil	<1
2	nil	nil	<1
3	nil	nil	<1

(ii) chlorinated test water:

Taster	Odour description	Flavour description	Flavour dilution number
1	nil	nil	<1
2	nil	nil	<1
3	nil	nil	<1

Comment - thus the samples of this product have been found to comply with the requirements of BS 6920: Part 1: clause 4 when extracted at 85°C.

3. APPEARANCE OF WATER

Extraction temperature – 85°C

Date test commenced – 22 January 2013

Extract 1

	Colour (Hazen units)	Turbidity (Formazine nephelometric units)
Test container (product)	<5	0.05
Blank	<5	0.05
Net Increase	nil	nil

Comment - thus the sample of this product has been found to comply with the requirements of BS 6920: Part 1: clause 5 when extracted at 85°C.

4. GROWTH OF AQUATIC MICROORGANISMS

Date test commenced – 18 December 2012

Mean dissolved oxygen differences -

Test container (product)	-0.2mg/l
Negative reference (glass) sample	-0.3mg/l
Positive reference (wax) sample	5.9mg/l
Mean dissolved oxygen concentration of the negative control	7.8mg/l

Note - At the end of this test the test piece showed no changes in colour and appearance.

Comments - thus the sample of this product has been found to comply with the requirements of BS 6920: Part 1: clause 6.

5. THE EXTRACTION OF SUBSTANCES THAT MAY BE OF CONCERN TO PUBLIC HEALTH

Extraction temperature - 85°C

Date test commenced – 22 January 2013

Extracts were tested using African Green Monkey Cell Line (VERO ATCC CCL 81)

Extract	Growth of cell tissue (monolayer)
Reagent blank	healthy, confluent
Zinc Sulphate validation solution (cytotoxic)	cell death
sample	healthy, confluent

Comment - thus the sample of this product has been found to give a non-cytotoxic response and therefore it has been found to comply with the requirements of BS 6920: Part 1: clause 7 when extracted at 85°C.

6. THE EXTRACTION OF METALS

Extraction temperature - 85°C

Date test commenced – 22 January 2013

Number of extracts - 1

All analyses carried out at location A, Sunbury Technology Centre, on duplicate samples of the product as specified below

Aluminium, Antimony, Arsenic, Barium, Cadmium, Chromium, Iron, Lead, Manganese, Mercury, Nickel, Selenium: Inductively coupled plasma emission spectroscopy (ICP-MS)

Extract 1

Metal	Expression of the results	Max. admissible concentration	Reporting Limit	Concentration Final Extract I	Concentration Final Extract II	Determined Reagent Blanks
Aluminium	Al µg/L	200	20.0	65.5	88.0	< 20.0
Antimony	Sb µg/L	5	0.5	< 0.5	< 0.5	< 0.5
Arsenic	As µg/L	10	1.0	< 1.0	< 1.0	< 1.0
Barium	Ba µg/L	1000	100.0	< 100.0	< 100.0	<100.0
Cadmium	Cd µg/L	5	0.5	< 0.5	< 0.5	< 0.5
Chromium	Cr µg/L	50	5.0	< 5.0	< 5.0	< 5.0
Iron	Fe µg/L	200	20.0	< 20.0	< 20.0	< 20.0
Lead	Pb µg/L	25	1.0	< 1.0	< 1.0	< 1.0
Manganese	Mn µg/L	50	5.0	< 5.0	< 5.0	< 5.0
Mercury	Hg µg/L	1	0.1	< 0.1	< 0.1	< 0.1
Nickel	Ni µg/L	20	2.0	< 2.0	< 2.0	< 2.0
Selenium	Se µg/L	10	1.0	< 1.0	< 1.0	< 1.0

Comment - thus the samples of this product have been found to comply with the requirements of BS 6920: Part 1: clause 8 when extracted at 85°C.

CONCLUSION

The sample of the product referred to in this report has been tested in accordance with the methods specified in BS 6920: Part 2: 2000 “Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water: Methods of test” (including High Temperature Tests in accordance with BS 6920: Part 3: 2000) and the requirements of the Water Regulations Advisory Scheme ‘WRAS Material Guidance, Version 1.0 dated 1 November 2012’.

This product has satisfied the criteria set out in BS 6920: Part 1: 2000 “Specification” and thus complies with the requirements of the Water Regulations Advisory Scheme Tests of Effect on Water Quality (BS 6920: 2000). It is suitable for use with hot water (up to 85°C) and cold water.

N.B The results specified in this report relate only to the sample of the product submitted for testing. Any changes in the nature or source of ingredients and the process of manufacture or application could affect the suitability of the product for use in contact with potable water.

Materials and products intended for use by a public water supply company in the preparation or conveyance of water may need to satisfy more comprehensive toxicological requirements as set specified by the Drinking Water Inspectorate. These additional requirements are necessary to ensure legal compliance with Regulation 31 of Water Supply (Water Quality) Regulations 2000.