

Test Report

REPORT NO. MA5416/J

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Anaerobic Acrylic Adhesive

Loctite® 542

CLIENT:

Henkel Ltd.
Wood Lane End
Hemel Hempstead
Hertfordshire
HP1 2LN

reported by:



**PATRICK DAVIES
ANALYST**

DATE: 3 DECEMBER 2015

reviewed by:



**GREG STRETTON
ACTING SECTION HEAD OF
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CLIENT'S REFERENCE: 4592066538

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: 2014)
AUDIT TESTS; HIGH TEMPERATURE TESTS (BS6920: PART 3: 2014)**

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	anaerobic acrylic adhesive
Trade name and reference of material	Loctite® 542
Material manufacturer	Henkel Ireland Ltd.
Submitting organisation	Henkel Ltd., UK
Batch number of product	4KD3341
Date of manufacture of product	31 October 2014
Method of manufacture of sample	information not provided
Sampling procedure	taken from stock
Description of sample	shiny red liquid applied to the screw threads of a stainless steel coupling as per BS6920-2.1 clause 7.6
Surface area of test piece	N/A
Number of articles constituting a test piece	1
Calibration mark of test containers	1 litre
Date of application	22 April 2015
Date of receipt of test samples	23 April 2015
Condition of samples on receipt	satisfactory
Method of packaging	plastic squeezey bottle
Conditions of storage of the samples between receipt and testing	as instructed in BS6920-2.1: 2014: clause 5.2
Proposed use of the product	thread sealing and locking

SITE APPLIED PRODUCTS

The samples were prepared in accordance with manufacturer's instructions to the user.

Samples prepared by	Intertek, Leatherhead
Mode of preparation and application of the product	the product was applied onto the screw threads of the stainless steel coupling which was then assembled
Nature of test plates	stainless steel coupling as per BS6920-2.1 clause 7.6
Application conditions	ambient (22°C)
Curing conditions	24 hours at ambient (22°C)

2. ODOUR AND FLAVOUR OF WATER

Number of tasters in the taste panel – 3

Date tests commenced – 28 July 2015

Extraction temperature – **23°C**

Extract 1

(i) chlorine free test water:

Taster	Odour description	Flavour description	Flavour dilution number
1	chemical	N/A	N/A
2	chemical	N/A	N/A
3	solvent	N/A	N/A

(ii) chlorinated test water:

Taster	Odour description	Flavour description	Flavour dilution number
1	chemical	N/A	N/A
2	chemical	N/A	N/A
3	solvent	N/A	N/A

Extract 7 (final extract)

(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 **23°C**.

Extraction temperature – 40°C

Extract 1

(i) chlorine free test water:

Taster	Odour description	Flavour description	Flavour dilution number
1	sweet	N/A	N/A
2	chemical	N/A	N/A
3	solvent/musty	N/A	N/A

(ii) chlorinated test water:

Taster	Odour description	Flavour description	Flavour dilution number
1	musty	N/A	N/A
2	chemical/solvent	N/A	N/A
3	musty	N/A	N/A

Extract 7 (final extract)

(i) chlorine free test water:

Taster	Odour description	Flavour description	Flavour dilution number
1	chemical	N/A	N/A
2	chemical	N/A	N/A
3	musty	N/A	N/A

(ii) chlorinated test water:

Taster	Odour description	Flavour description	Flavour dilution number
1	musty	N/A	N/A
2	nil	N/A	N/A
3	sweet	N/A	N/A

Comment - thus the sample of this product has been found NOT to comply with the requirements of BS 6920: Part 1: clause 4 when extracted at 40°C.

3. THE EXTRACTION OF METALS

Extraction temperature – 40°C

Date test commenced – 16 July 2015

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, Boron, Cadmium, Chromium, Iron, Lead, Manganese, Mercury, Nickel, Selenium: Inductively coupled plasma – mass spectrometry (ICP-MS)

Extract 1

Metal	Expression of the results	Max. admissible concentration	Reporting Limit	Concentration Final Extract		Determined Reagent Blanks	Metal fitting blank
				I	II		
Aluminium	Al µg/L	200	20.0	< 20.0	< 20.0	< 20.0	< 20.0
Antimony	Sb µg/L	5	0.5	< 0.5	< 0.5	< 0.5	< 0.5
Arsenic	As µg/L	10	1.0	< 1.0	< 1.0	< 1.0	< 1.0
Barium	Ba µg/L	1000	100.0	< 100.0	< 100.0	<100.0	<100.0
Cadmium	Cd µg/L	5	0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	Cr µg/L	50	5.0	< 5.0	< 5.0	< 5.0	< 5.0
Iron	Fe µg/L	200	20.0	< 20.0	< 20.0	< 20.0	< 20.0
Lead	Pb µg/L	25	1.0	1.27	1.43	1.44	1.27
Manganese	Mn µg/L	50	5.0	< 5.0	< 5.0	< 5.0	< 5.0
Mercury	Hg µg/L	1	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	Ni µg/L	20	2.0	< 2.0	< 2.0	< 2.0	< 2.0
Selenium	Se µg/L	10	1.0	< 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 40°C.

Further Comment - In the Extraction of Metals Test the concentration of Lead found in the reagent blank exceeded the reporting limit of detection for this element. After investigation it was concluded, that the test was valid and that the results obtained for the product conform to the requirements for this test.

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: 2014 "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: 2014) and the requirements of the Water Regulations Advisory Scheme 'WRAS Materials Guidance, Version 3 dated 10 March 2015'.

This product has satisfied the criteria set out in BS 6920: Part 1: 2014 "Specification" and thus complies with the requirements of the Water Regulations Advisory Scheme Tests of Effect on Water Quality (BS 6920: 2014): Site Applied Products / Audit Tests / Odour & Flavour of Water (at 23°C only) / Extraction of Metals / Cold Water Tests (23°C).

On the basis of these test results the sample of this product has been found NOT to comply with the requirements of BS 6920: 2014: Part 1: Clause 4; Odour & Flavour of Water (at 40°C only) / Site Applied Products / Audit Tests / High Temperature Tests. It is unsuitable for use with hot water.

NO OTHER TESTS WERE UNDERTAKEN ON THIS PRODUCT

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.

NOTES FOR WRAS

Audit tests on product covered by our report ref. MA4006/W dated 4 March 2010 and your letter ref Nathan Jones dated 18 April 2015 relating to WRAS approval number 1003518.

This anaerobic adhesive has been tested in accordance to BS6920-2.1, clause 7.6.

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