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Test Report

REPORT NO. MA5691/Y

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Anaerobic adhesive with activator

Loctite[®] 326 with Loctite[®] 7649[™]

CLIENT:

Henkel Ltd
Wood Lane End
Hemel Hempstead
Hertfordshire
HP2 4RQ

reported by:

**SAM CLARKE
CUSTOMER CARE
COORDINATOR**

DATE: 15 DECEMBER 2016

reviewed by:

**HANNAH SNELL
SECTION HEAD OF MATERIALS**

CLIENT'S REFERENCE: 4592169887

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; SITE APPLIED PRODUCTS; 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	urethane methacrylate with solvent activator
Trade name and reference of material	adhesive: Loctite® 326 activator: Loctite® 7649™
Material manufacturer	Henkel Ireland
Submitting organisation	Henkel Ltd., UK
Batch number of product	adhesive: information not provided activator: 15KM983
Date of manufacture of product	adhesive: November 2015 activator: October 2015
Method of manufacture of sample	N/A
Sampling procedure	taken from stock
Description of sample	translucent light green liquid and amber translucent shiny liquid applied to the screw threads of a coupling fitting 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	31 March 2016
Date of receipt of test samples	adhesive : 21 July 2016 activator: 4 April 2016
Condition of samples on receipt	satisfactory
Method of packaging	plastic 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	flat face metal bonding of metal parts

SITE APPLIED PRODUCTS

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

Samples prepared by	Intertek
Version of manufacturer's instruction for use	adhesive: May 2004 activator: December 2009
Appearance of product before application	activator: shiny, amber liquid paste: light green, clear spray
Mode of preparation and application of the product	the activator was sprayed onto the screw threads of the stainless steel coupling, followed by application of the adhesive using the applicator tip. The coupling was then re-assembled
Nature of test plates	compression fitting as described in BS 6920-2.1: 2014 clause 4.2.2
Application conditions	ambient (22±2°C)
Curing conditions	7 days at ambient (22±2°C)

2. ODOUR AND FLAVOUR OF WATER

Number of tasters in the taste panel – 3

Date tests commenced – 6 September 2016

Extraction temperature – **23°C**

Extract 1

(i) chlorine free test water:

Taster	Odour description	Flavour description	Flavour dilution number
1	cut grass	N/A	N/A
2	earthy	N/A	N/A
3	musty	N/A	N/A

(ii) chlorinated test water:

Taster	Odour description	Flavour description	Flavour dilution number
1	chemical	N/A	N/A
2	coffee	N/A	N/A
3	coffee	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 – 85°C

Extract 1

(i) chlorine free test water:

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

(ii) chlorinated test water:

Taster	Odour description	Flavour description	Flavour dilution number
1	mould	N/A	N/A
2	nil	N/A	N/A
3	chemical	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 sample of this product has been found to comply with the requirements of BS 6920: Part 1: clause 4 when extracted at 85°C.

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

Extracts were tested using Monkey African Green Kidney CITES (Lot 10F019)

Extraction temperature – 23°C

Date test commenced – 23 August 2016

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 23°C.

6. THE EXTRACTION OF METALS

Extraction temperature – 85°C

Date test commenced – 23 August 2016

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		Reagent Blank	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
Boron	B µg/L	1000	100.0	209.0	208.0	105.0	178.0
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	32.3	20.3	< 20.0	21.3
Lead	Pb µg/L	25	1.0	< 1.0	< 1.0	< 1.0	< 1.0
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	4.53	6.09	7.40
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 85°C.

Further Comment - In the Extraction of Metals Test the concentration of Boron 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 4.2 dated 6 June 2016'.

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 / Cytotoxicity / Extraction of Metals / High Temperature Tests (85°C).

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. MA4268/V dated 23 June 2011 and your letter ref Hannah Lewis dated 27 July 2015 relating to WRAS approval number 1106508.

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

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