



NATIONAL INSTITUTE OF PUBLIC HEALTH

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SIMA servis Ltd
Václavská 119
619 00 BRNO
Czech Republic

YOUR REFERENCE: 14-O-DM-022
IN YOUR LETTER OF: 6 February 2014
OUR REFERENCE: 678/2014
EX 140285
EXECUTED BY: L. Nešpůrková, MSc, PhD
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E-MAIL: ludmila.nespurkova@szu.cz
DATE: 14 March 2014

Re: Expert assessment of rubber intended for contact with drinking water for compliance with the health safety requirements of Act No. 258/2000 and Regulation No. 409/2005 of the Ministry of Health of the Czech Republic.

In your letter of 9 July 2013, you ordered the safety assessment of hardened rubber Wagunit H 1005 intended for contact with drinking water for compliance with the health safety requirements of Act No. 258/2000 and Regulation No. 409/2005 of the Ministry of Health of the Czech Republic. The manufacturer of Wagunit H 1005 is the company WAGU Gummitechnik GmbH, Friedrich-Harkort-Str. 17, 59581 Warstein, Germany. The distributor is the company SIMA servis Ltd, Václavská 119, 619 00 Brno, Czech Republic. For the purpose of our assessment, you submitted the following documents:

- Catalogue sheet for the product electromagnetic flowmeter.
- TEST certificate for Wagunit H 1005 rubber as suitable for use in contact with drinking water issued by the laboratories Hygiene-Institut des Ruhrgebiets, Germany, of 21 March 2013.
- Wagunit H 1005 rubber samples for extraction tests.

As indicated by the manufacturer, the product submitted, i.e. hardened rubber Wagunit H 1005, serves as the lining material in the induction flowmeters SIMA FC which are used in the water, food, and chemical industries.

The extraction tests and assessment of the product Wagunit H 1005 rubber intended for use in contact with drinking water were performed in accordance with Regulation No. 409/2005 of the Ministry of Health of the Czech Republic on the health safety requirements for products coming into contact with drinking water and for water treatment and Regulation No. 252/2004 of the Ministry of Health of the Czech Republic laying down the health safety requirements for drinking and hot water and frequency and scope of drinking water testing. The results of the laboratory analyses performed are presented in Laboratory Test Reports Nos. 1.1/14/62 and 1.1/14/531 which are attached to this Expert Assessment Report as an integral part of it.

Evaluation:

The evaluation of the extraction tests is performed in accordance with Article 3 of Regulation No. 409/2005 of the Ministry of Health of the Czech Republic which specifies that the products

intended to come into contact with water shall comply with the extraction test limits and the extraction tests shall be performed under the conditions and using the test procedures specified in Annexe 1 of the above-mentioned Regulation. The contribution to water contamination, from a product in contact with water and intended to come into permanent contact with water, determined by the extraction tests shall not exceed 10 % (total organic carbon - TOC 20 %, permanganate chemical oxygen demand - COD_{Mn} 30 %) of the health safety limit for the given drinking water indicator laid down in Regulation No. 252/2004 of the Ministry of Health of the Czech Republic. The contribution to water contamination from a product in contact with water and intended to come in short-term contact with drinking water (not exceeding 24 hours), determined by the extraction tests shall not exceed the health safety limit for the given drinking water indicator laid down in Regulation No. 252/2004 of the Ministry of Health of the Czech Republic.

Extraction tests results:

The extraction tests were used to analyze samples of hardened rubber Wagunit H 1005. Pre-treated samples (see Annexe 1 to Regulation No. 409/2005 of the Ministry of Health) were extracted three times with deionized water for 72 hours. The ratio of sample surface area to deionized water volume was 1:1 [cm²:cm³]. From the laboratory test results annexed, it follows:

The product Wagunit H 1005 rubber complied with the extraction tests requirements for products intended to come into permanent contact with water in the following indicators: water steam volatile phenols, total organic carbon (TOC), colour, permanganate chemical oxygen demand (COD_{Mn}), primary aromatic amines, styrene, toluene, benzene, xylenes, lead, and cadmium. For none of these indicators, the respective 10 % level (TOC 20 % and COD_{Mn} 30 %) of the health safety limit specified in Regulation No. 252/2004 of the Ministry of Health was exceeded.

Sensory tests: Extracted three times with deionized water for 72 hours, the product Wagunit H 1005 rubber did not impart unpleasant taste or odour to water.

Conclusion:

Based on the laboratory analyses and the above-mentioned evaluation, it can be concluded that the product **Wagunit H 1005 rubber** produced by WAGU Gummitechnik GmbH, Warstein, Germany and distributed by SIMA servis Ltd, Brno, Czech Republic, intended to come into contact with drinking water **complies with the health safety requirements** for products intended to come into permanent contact with drinking water laid down by Act 258/2000, as last amended, and Regulation No. 409/2005 of the Ministry of Health of the Czech Republic, as last amended.

Note:

This expert opinion only applies to the above-mentioned product Wagunit H 1005 rubber and the conclusions drawn from the assessment can only be generalized to other products of the same type, if they are fully identical to the analysed product Wagunit H 1005 rubber in terms of the composition and properties.



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Annexes: Laboratory Test Reports Nos. 1.1/14/62 and 1.1/14/531