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IVM Chemicals srl  
Attn: Mr. Giovanni Tropeano  
Via Varese 2

20010 Bareggio  
Italien - Italy

Braunschweig, 24.08.2018

## Test report No. MAIC-2018-3521

<b>Customer:</b>	IVM Chemicals srl, Bareggio.	
<b>Object of the test:</b>	Determination of soluble tin organic compounds of a liquid sample.	
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**Sample description:**

WKI no.	Date of reception	Sample Name (this information is provided by the customer)	Product No.	Manufacturer-Code	Date-Stamp
P71114	13.07.2018	XWC5AA1	XWC5AA1	Liquid product	11/07/2018

(Sample P71114: Bottle/box/wrapped separately, wrapping ok)

Notice: Sample material will be stored for 2 months after test report date. Please contact us if an extended storage time is required or if sample material needs to be returned.


**Methods:**
**Extraction and determination of tin organic compounds according to DIN EN 71-3:2018**

100 - 200 mg of the liquid material was weighed into a vial and shaken with the 50-fold amount of a 0.07 mol/l HCl solution for 1 min. The pH-value was checked and, if necessary, adjusted to 1.0 – 1.5 using a 2 mol/l HCl solution. Afterwards, the solution was agitated for 1 h at 37 ( $\pm 2$ ) °C and then left for another hour at the same temperature. After extraction with sodium-diethyldithiocarbamate/ethanol and derivatization with sodium-tetraethylborate/ hexane the compounds were analyzed using GC-ICP/MS.

**Results:**

The quantitative test results can be found on the next page.

**Results of the Determination of soluble tin organic compounds of sample P71114 (XWC5AA1)**

Substance	Concentration [mg/kg]	Limit of quantification LoQ [mg/kg]
Di-n-propyl tin	1.42	0.05
Monomethyl tin	< LoQ	0.05
Monobutyl tin	< LoQ	0.05
Dibutyl tin	2.50	0.05
Tributyl tin	< LoQ	0.05
Tetrabutyl tin	< LoQ	0.05
Monooctyl tin	< LoQ	0.05
Diocetyl tin	< LoQ	0.05
Diphenyl tin	< LoQ	0.05
Triphenyl tin	< LoQ	0.05
Sum tin organic compounds (based on tributyl tin):	5.12	0.2

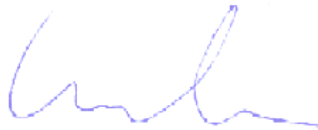
**Remarks:** The soluble tin organic contents of sample P71114 were below the limit values of 12 mg/kg according to DIN EN 71-3:2018 and IOS-MAT-0054 (AA-92520-9).

Officer in charge



C. Fauck

For the department



Dr. E. Uhde