



No. 4040911-02

Date : 09/FEB/2017

Page 1 of 4

Jauch Quartz GmbH Mr. Stefan Durczok In der Lache 24 78056 VS-Schwenningen GERMANY



The following samples were submitted and identified by/on behalf of the client as				
SGS Job file	: 4	4040911		
Order date	: 2	23/JAN/2017		
Order number	: -	-		
Sample receiving Date	: (	30/JAN/2017		
Testing period	: (	30/JAN/2017 – 09/FEB/2017		
Sample No	S	Sample designation		
170100339		JRO32		
Test requested	: 1	In accordance with the RoHS Directive 2011/65/EU and subsequent amendments		
Test Method(s)		(1) Determination of Cadmium by ICP-OES, acc. IEC 62321-5:2013		
		(2) Determination of Lead by ICP-OES, acc. IEC 62321-5:2013		
	(	(3) Determination of Mercury by CV-AAS, acc. IEC 62321-4:2013		
	(	(4) Determination of Chromium by ICP-OES, acc. IEC 62321-5:2013		
	(	(5) Determination of Chromium (VI) acc. IEC 62321:		
		A) (metal samples) Determination after extraction with hot water and derivatisation with 1,5-diphenyl-carbazide based on IEC 62321-7-1:2015 (metal samples), ion chromatography		
	E	B) (non-metallic samples) Determination after alkaline extraction and derivatisation with 1,5-diphenyl-carbazide based on IEC 62321, Ed1, 2008, C5 (polymer and electronic samples), ion chromatography		
	(	<u>Remark:</u> Due to its highly reactive nature the concentration of CrVI in a corrosion-protection changes drastically with time and storage conditions. The results obtained by IEC 62321-7-1:2015 can therefore only give an indication of the presence/absence of Cr(VI) within the limitations of the method at the time of testing.		
	-	(6) Determination of PBB/PBDE by GC/MS, acc. IEC 62321-6:2015		
		<u>Remark</u> : Please note that acc. to IEC the testing of metals for PBB/PBDE is gratuitous		
Test Result(s)	: 1	Please refer to next page(s)		
Conclusion	   	Based on the performed tests on submitted sample(s), the test results of Lead, Mercury, Cadmium, hexavalent Chromium, Polybrominated Biphenyls(PBB) and Polybrominated Diphenyl Ethers (PBDE) <b>comply with</b> the limits as set by RoHS Directive 2011/65/EU, Annex 2 and subsequent amendments		

Signed for and on behalf of SGS INSTITUT FRESENIUS GmbH

i.V.

Wera Leonhard / hi Projektleiterin / Project Manager

i. A.

Rika Alessa Riebe Projektleiterin / Project Manager

\\DEFS020\Detsn\_Nf\$\J\Jauch Quartz Gmbh\_10008399\2017\4040911\4040911-02\_Rohs.Doc

SGS INSTITUT FRESENIUS GmbH | Im Maisel 14 D-65232 Taunusstein t+49 6128 744 - 0 f+49 6128 744 - 130 www.institut-fresenius.sgsgroup.de

Member of the SGS Group (Société Générale de Surveillance)

Die Prüfergebnisse beziehen sich auf die untersuchten Proben. Die Veröffentlichung und Vervielfältigung unserer Prüfberichte und Gutachten zu Werbezwecken sowie deren auszugsweise Verwendung in sonstigen Fällen bedürfen unserer schriftlichen Genehmigung. Alle Dienstleistungen werden auf Grundlage der anwendbaren Allgemeinen Geschäftsbedingungen der SGS, die auf Anfrage zur Verfügung gestellt werden, erbracht.





No. 4040911-02

Date : 09/FEB/2017

Page 2 of 4

Jauch Quartz GmbH In der Lache 24 78056 VS-Schwenningen GERMANY

# Test results by chemical method (Unit: mg/kg)

Sample No.		170100339		
Test Item(s):	Method (refer to)		<u>RL</u>	<u>RoHS Limit</u>
Cadmium(Cd)	(1)	n.d.	10**	100
Lead (Pb)	(2)	n.d.	50**	1000
Mercury (Hg)	(3)	n.d.	0,5	1000
Chromium, hexavalent (Cr(VI))	(5 A)	negative <sup>1</sup>	0,1 µg/cm <sup>2</sup>	1000
Sum of PBDEs	(6)	-	-	
Monobromodiphenyl ether		n.a.	50	1000 (Sum of polybrominated diphenyl ether)
Dibromodiphenyl ether		n.a.	50	
Tribromodiphenyl ether		n.a.	50	
Tetrabromodiphenyl ether		n.a.	50	
Pentabromodiphenyl ether		n.a.	50	
Hexabromodiphenyl ether		n.a.	50	
Heptabromodiphenyl ether		n.a.	50	
Octabromodiphenyl ether		n.a.	50	
Nonabromodiphenyl ether		n.a.	50	
Decabromodiphenyl ether		n.a.	50	
Sum of PBBs		-	-	
Monobromobiphenyl		n.a.	50	
Dibromobiphenyl		n.a.	50	1000 (Sum of polybrominated biphenyls)
Tribromobiphenyl		n.a.	50	
Tetrabromobiphenyl		n.a.	50	
Hexabromobiphenyl	[	n.a.	50	
Pentabromobiphenyl		n.a.	50	
Heptabromobiphenyl		n.a.	50	
Octabromobiphenyl		n.a.	50	
Nonabromobiphenyl		n.a.	50	
Decabromobiphenyl		n.a.	50	

Note : mg/kg = ppm

n.d.= not Detected

RL = Report Limit

n.a.= not analyzed

\*\*= elevated reporting limit due to matrix interferences

<sup>&</sup>lt;sup>1</sup> The sample is negative for Cr(VI) if Cr(VI) is not detectable (concentration less than 0.10 µg/cm<sup>2</sup>). The coating is considered a non-Cr(VI) based coating The sample is positive for Cr(VI) if the Cr(VI) concentration is greater than 0.13 µg/cm<sup>2</sup>. The sample coating is considered to contain Cr(VI) Results between 0.10 µg/cm<sup>2</sup> and 0.13 µg/cm<sup>2</sup> are considered to be inconclusive - unavoidable coating variations may influence the determination

SGS Institut Fresenius GmbH, Im Maisel 14, D-65232 Taunusstein

The analytical findings are only valid for the sample as analyzed. Writen acknowledgement for publication and duplication of our analytical reports for promotional purpose, as well as fractional use for other purposes mandatory. Electronically submitted results are for your information only. For legally binding results refer to the originally signed analytical report. Numbers following "<" represent limits of quantification. Determination of parameters marked with \* was performed with a cooperation partner.





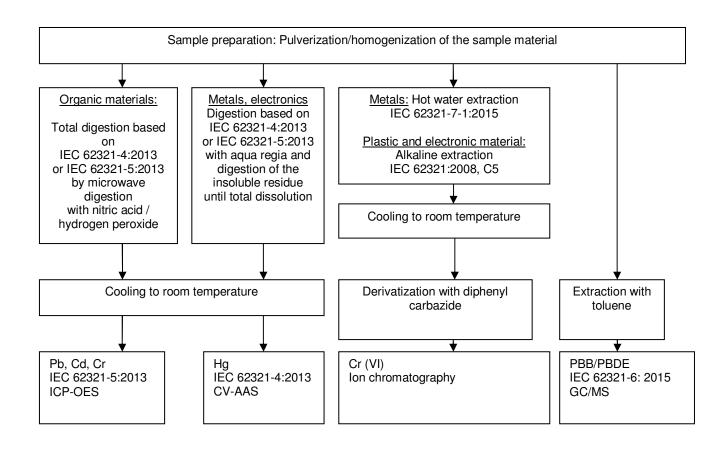
No. 4040911-02

Date : 09/FEB/2017

Page 3 of 4

Jauch Quartz GmbH In der Lache 24 78056 VS-Schwenningen GERMANY

#### Flow Chart for the working flow of the performed analysis



SGS Institut Fresenius GmbH, Im Maisel 14, D-65232 Taunusstein

The analytical findings are only valid for the sample as analyzed. Written acknowledgement for publication and duplication of our analytical reports for promotional purpose, as well as fractional use for other purposes mandatory. Electronically submitted results are for your information only. For legally binding results refer to the originally signed analytical report. Numbers following "<" represent limits of quantification. Determination of parameters marked with \* was performed with a cooperation partner.





Jauch Quartz GmbH In der Lache 24 78056 VS-Schwenningen GERMANY No. 4040911-02

Date : 09/FEB/2017

Page 4 of 4

#### Sample Photo(s)



\*\*\*End of Report\*\*\*

SGS Institut Fresenius GmbH, Im Maisel 14, D-65232 Taunusstein

The analytical findings are only valid for the sample as analyzed. Writen acknowledgement for publication and duplication of our analytical reports for promotional purpose, as well as fractional use for other purposes mandatory. Electronically submitted results are for your information only. For legally binding results refer to the originally signed analytical report. Numbers following "e" represent limits of quantification. Determination of parameters marked with \* was performed with a cooperation partner.