

TEST REPORT

Report No: MF201230011E

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Customer..... : Nanchang Florin Science & Technology Limited Company
 Address..... : Number 328, Lianhe Road, Xiaolan Economy & Technology Development
 Zone, Nanchang County, Jiangxi Province
 Sample name..... : Fully—synthesized water souble cutting fluid for Wafer
 Sample model..... : HF—WW—9A
 Quantity of Sample..... : 1 pc
 Other description..... : /

★The customer provides the above information, to which the company assumes no responsibility for the authenticity.

Sample No. : F201230018
 Sample Received Date... : Dec.30.2020
 Completion Date..... : Jan.06.2021
 Report Issue Date : Jan.06.2021

Test Information:

No.	Item	Test Result
1	RoHS (Pb、Cd、Hg、Cr ⁶⁺ 、PBBs、PBDEs、DEHP、BBP、DBP、DIBP)	See Appendix 2

Approved: Bill Chen

Shenzhen Meixin Analysis Technology Co., Ltd

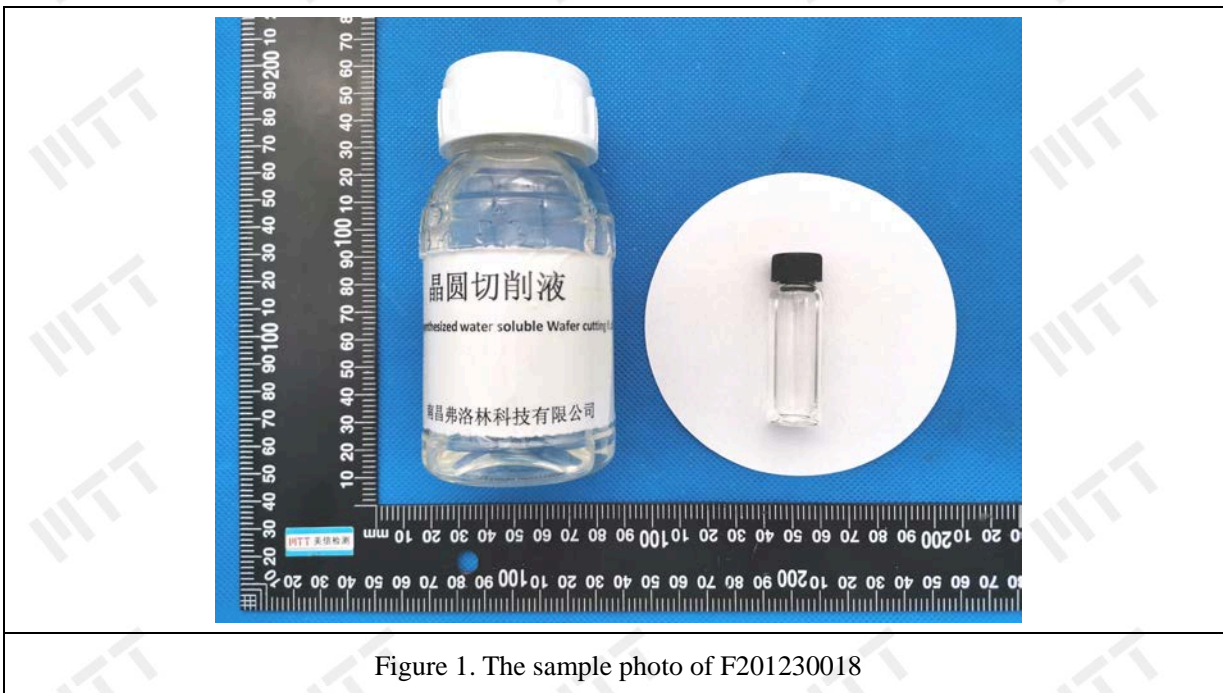
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Appendix 1

Sample Photos:



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Appendix 2

Test Item: RoHS (Pb、Cd、Hg、Cr⁶⁺、PBBs、PBDEs、DEHP、BBP、DBP、DIBP)

1. Environment Condition:

Temperature: 23.0°C; Relative humidity: 42%R.H;

2. Test Sample:

Sample No.	Sample name	model	Quantity	Sample description
F201230018	Fully—synthesized water souble cutting fluid for Wafer	HF—WW—9A	1 pc	Transparent liquid

3. Test Equipment:

No.	Name	Model	Calibration date
1	Inductively Coupled Plasma Optical Emission Spectrometer	Optima 8000	2020.09.17
2	UV-VIS Spectrophotometer	UV-5200	2020.09.22
3	Gas Chromatograph Mass Spectrometer	GCMS-QP2010SE	2020.09.22

4. Testing Standard:

Reference to IEC 62321-4:2013+Amd-1:2017 Ammendment 1-Determination of certain substances in electrotechnical products-Part 4: Mercury in polymers, metals and electronics by CV-AAS, CV-AFS, ICP-OES and ICP-MS

Reference to IEC 62321-5:2013 Determination of certain substances in electrotechnical products. Part 5:Cadmium,lead and chromium in polymers and electronics and cadmium and lead in metals by AAS,AFS,ICP-OES and ICP-MS

Reference to IEC 62321-7-2:2017 Determination Of Certain Substances In Electrotechnical Products -Part 7-2:Hexavalent Chromium-Determination Of Hexavalent Chromium (Cr(VI)) In Polymers And Electronics By The Colorimetric Method

Reference to IEC 62321-6:2015 Determination of certain substances in electrotechnical products. Part 6:Polybrominated biphenyls and polybrominated diphenyl ethers in polymers by gas chromatograhpy -mass spectrometry (GC-MS)

Reference to IEC 62321-8:2017 Determination Of Certain Substances In Electrotechnical Products-Part 8:Phthalates In Polymers By Gas Chromatography-Mass Spectrometry (Gc-Ms), Gas Chromatography-Mass Spectrometry Using A Pyrolyzer/Thermal Desorption Accessory (Py-Td-Gc-Ms)

5. Test Flow:

See Appendix 3

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6. Test Results:

Item	Unit	MDL	Test Results	Limit
Lead (Pb)	mg/kg	2	N.D.	1000
Cadmium(Cd)	mg/kg	2	N.D.	100
Mercury (Hg)	mg/kg	2	N.D.	1000
Hexavalent Chromium(Cr ⁶⁺)	mg/kg	10	N.D.	1000
Monobromobiphenyl	mg/kg	5	N.D.	-
Dibromobiphenyl	mg/kg	5	N.D.	-
Tribromobiphenyl	mg/kg	5	N.D.	-
Tetrabromobiphenyl	mg/kg	5	N.D.	-
Pentabromobiphenyl	mg/kg	5	N.D.	-
Hexabromobiphenyl	mg/kg	5	N.D.	-
Heptabromobiphenyl	mg/kg	5	N.D.	-
Octabromobiphenyl	mg/kg	5	N.D.	-
Nonabromobiphenyl	mg/kg	5	N.D.	-
Decabromobiphenyl	mg/kg	5	N.D.	-
Sum of PBBs	mg/kg	-	N.D.	1000
Monobromodiphenyl ether	mg/kg	5	N.D.	-
Dibromodiphenyl ether	mg/kg	5	N.D.	-
Tribromodiphenyl ether	mg/kg	5	N.D.	-
Tetrabromodiphenyl ether	mg/kg	5	N.D.	-
Pentabromodiphenyl ether	mg/kg	5	N.D.	-
Hexabromodiphenyl ether	mg/kg	5	N.D.	-
Heptabromodiphenyl ether	mg/kg	5	N.D.	-
Octabromodiphenyl ether	mg/kg	5	N.D.	-
Nonabromodiphenyl ether	mg/kg	5	N.D.	-
Decabromodiphenyl ether	mg/kg	5	N.D.	-
Sum of PBDEs	mg/kg	-	N.D.	1000
Bis(2-ethylhexyl) phthalate (DEHP)	mg/kg	50	N.D.	1000
Butyl benzyl phthalate (BBP)	mg/kg	50	N.D.	1000
Dibutyl phthalate (DBP)	mg/kg	50	N.D.	1000
Diisobutyl phthalate (DIBP)	mg/kg	50	N.D.	1000

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Remarks:

mg/kg = ppm = parts per million

N.D. = Not Detected (< MDL)

MDL = Method Detection Limit

Limits are derived from the technical specifications of the standard EU RoHS directive 2011/65/EU with amendment (EU) 2015/863.

Conclusion:

Based on the performed tests on submitted sample(s), the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs), DEHP, BBP, DBP, DIBP comply with the limits set by RoHS Directive 2011/65/EU with amendment 2015/863/EU.

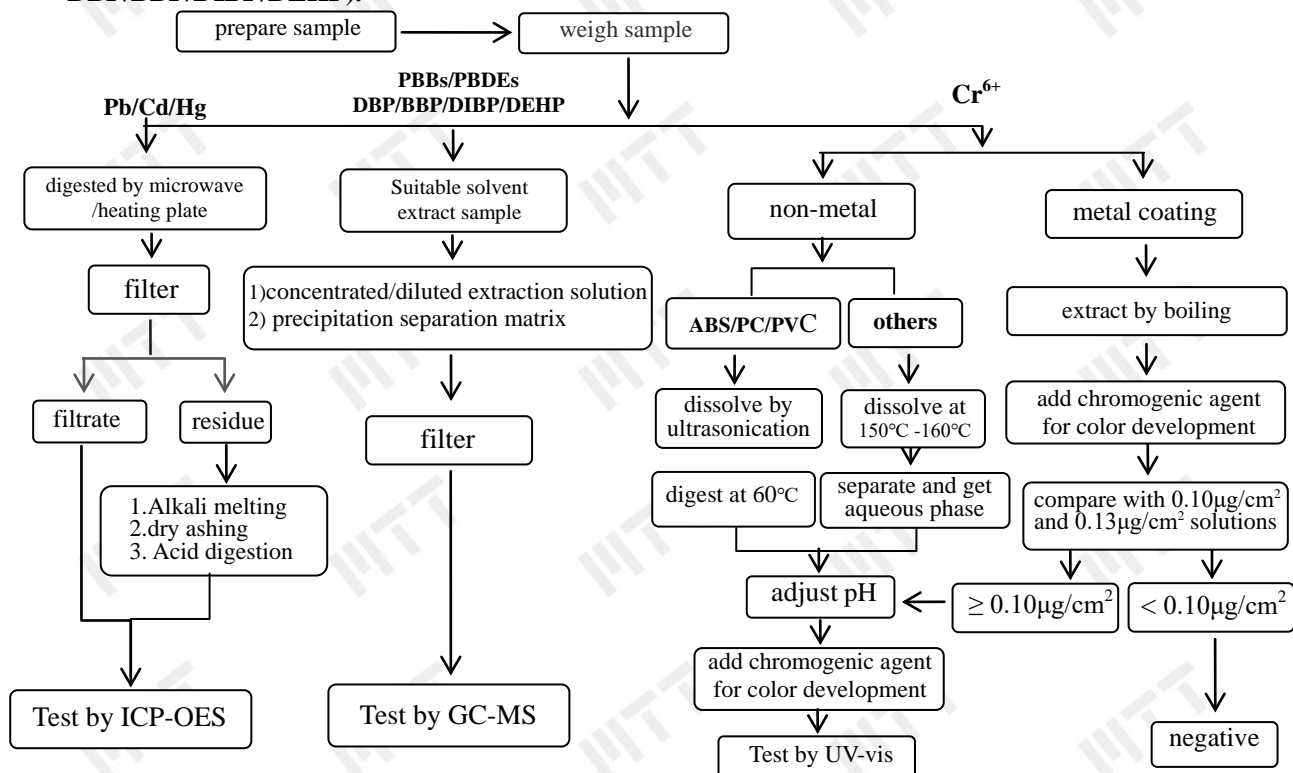
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Appendix 3

The sample is digested completely as the following procedure (except Cr^{6+} 、PBBs/PBDEs、DBP/BBP/DIBP/DEHP).



*** End of Report ***

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