

TEST REPORT

Report No: AR-24-Q5-010796-02
Customer: CSC Steel Sdn Bhd
Date of Issue: 04/09/2024



Batch No: EUMY04-00011757

To: CSC Steel Sdn Bhd
 180 Kawasan Industri Ayer Keroh
 75450 Ayer Keroh
 Melaka MALAYSIA

Attn: Lee Hui Kien

Date Sample Received: 07/08/2024

Date of Testing: 09/08/2024 to 21/08/2024

The following sample(s) was(were) identified by the customer as:

187-2024-08000874:

REALCOLOR @ CAHAYA PLUS
 KF1898

This 1 page(s) of report and its attachment(s), if relevant, has/have been validated by



ChM. Muhammad Nur Faaizi , B. Sc (Hons) Industrial
 Chemistry
 IKM Registered Chemist
 Registered No.:M/5359/7938/18/20

EXPLANATORY NOTE

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N/A means not applicable.

<LOD means not detected at or below the Limit of Detection (LOD).

<LOQ means below the Limit of Quantification (LOQ).

- End of Report -

TEST REPORT

Report No: AR-24-SV-034426-02
Customer: CSC Steel Sdn Bhd
Date of Issue: 03/09/2024



Batch No: EUMYBM-00175780
Sample No: 138-2024-08001658

To: CSC Steel Sdn Bhd
 180 Kawasan Industri Ayer Keroh
 75450 Ayer Keroh
 Melaka MALAYSIA

Attn: Lee Hui Kien

Date Sample Received: 09/08/2024
Date of Testing: 12/08/2024 to 16/08/2024

The following sample was identified by the customer as :
 REALCOLOR © CAHAYA PLUS KF1898

Client Sample Code: 187-2024-08000874

Objective (s): Determination of Cadmium (Cd), Hexavalent Chromium (Cr6+), Lead (Pb), Mercury (Hg), Phthalates, Polybrominated Biphenyl (PBBs), Polybrominated Diphenyl Ether (PBDEs) with RoHS Directive 2011/65/EU and (EU) 2015/863 (amendment in Annex II)

Conclusion :

Test(s) Required	Compliance with Objective(s)
Cadmium (Cd), Lead (Pb), Mercury (Hg), Monobromo biphenyl, Dibromo biphenyl, Tribromo biphenyl, Tetrabromo biphenyl, Pentabromo biphenyl, Hexabromo biphenyl, Heptabromo biphenyl, Octabromo biphenyl, Nonabromo biphenyl, Decabromo biphenyl, Sum Polybrominated Biphenyls (PBBs), Monobromo diphenyl ether, Dibromo diphenyl ether, Tribromo diphenyl ether, Tetrabromo diphenyl ether, Pentabromo diphenyl ether, Hexabromo diphenyl ether, Heptabromo diphenyl ether, Octabromo diphenyl ether, Nonabromo diphenyl ether, Decabromo diphenyl ether, Sum Polybrominated Diphenyl Ethers (PBDEs), Benzyl butyl phthalate (BBP), Bis(2-ethylhexyl)phthalate (DEHP), Dibutyl phthalate (DBP), Di-isobutyl phthalate (DiBP)	Comply
Hexavalent Chromium (Cr6+)	Refer Remark 4

Test Result(s):

Analysis	Industrial Products Analysis	Unit	Result	LOQ	Test Method	Specification
SVK51	Cadmium (Cd)	mg/kg	<LOQ	1	IEC 62321-5:2013	≤100mg/kg
SVL03	Lead (Pb)	mg/kg	<LOQ	10	IEC 62321-5:2013	≤1000mg/kg
SVK82	Mercury (Hg)	mg/kg	<LOQ	5	IEC 62321-4:2013	≤1000mg/kg
SVK66	Hexavalent Chromium (Cr6+)	-	Inconclusive	-	IEC 62321-7-1:2015	Refer Note 2
SVK16	Polybrominated Biphenyl (PBBs)				IEC 62321-6:2015	
	Monobromo biphenyl	mg/kg	<LOQ	20		Refer Note 3
	Dibromo biphenyl	mg/kg	<LOQ	20		Refer Note 3
	Tribromo biphenyl	mg/kg	<LOQ	20		Refer Note 3
	Tetrabromo biphenyl	mg/kg	<LOQ	20		Refer Note 3
	Pentabromo biphenyl	mg/kg	<LOQ	20		Refer Note 3
	Hexabromo biphenyl	mg/kg	<LOQ	20		Refer Note 3
	Heptabromo biphenyl	mg/kg	<LOQ	20		Refer Note 3
	Octabromo biphenyl	mg/kg	<LOQ	20		Refer Note 3
	Nonabromo biphenyl	mg/kg	<LOQ	20		Refer Note 3

TEST REPORT

Report No: AR-24-SV-034426-02
Customer: CSC Steel Sdn Bhd
Date of Issue: 03/09/2024



Batch No: EUMYBM-00175780
Sample No: 138-2024-08001658

Analysis	Industrial Products Analysis	Unit	Result	LOQ	Test Method	Specification
	Decabromo biphenyl	mg/kg	<LOQ	20		Refer Note 3
	Sum Polybrominated Biphenyls (PBBs)	mg/kg	<LOQ	20		≤1000mg/kg
SVK17	Polybrominated Diphenyl Ether (PBDEs)				IEC 62321-6:2015	
	Monobromo diphenyl ether	mg/kg	<LOQ	20		Refer Note 3
	Dibromo diphenyl ether	mg/kg	<LOQ	20		Refer Note 3
	Tribromo diphenyl ether	mg/kg	<LOQ	20		Refer Note 3
	Tetrabromo diphenyl ether	mg/kg	<LOQ	20		Refer Note 3
	Pentabromo diphenyl ether	mg/kg	<LOQ	20		Refer Note 3
	Hexabromo diphenyl ether	mg/kg	<LOQ	20		Refer Note 3
	Heptabromo diphenyl ether	mg/kg	<LOQ	20		Refer Note 3
	Octabromo diphenyl ether	mg/kg	<LOQ	20		Refer Note 3
	Nonabromo diphenyl ether	mg/kg	<LOQ	20		Refer Note 3
	Decabromo diphenyl ether	mg/kg	<LOQ	20		Refer Note 3
	Sum Polybrominated Diphenyl Ethers (PBDEs)	mg/kg	<LOQ	20		≤1000mg/kg
SVV1Q	Phthalates				IEC 62321-8:2017	
	Benzyl butyl phthalate (BBP)	% (w/w)	<LOQ	0.02		≤0.1%
	Bis(2-ethylhexyl)phthalate (DEHP)	% (w/w)	<LOQ	0.02		≤0.1%
	Dibutyl phthalate (DBP)	% (w/w)	<LOQ	0.02		≤0.1%
	Di-isobutyl phthalate (DiBP)	% (w/w)	<LOQ	0.02		≤0.1%

Specification Note

- RoHS Directive 2011/65/EU and (EU) 2015/863 (amendment in Annex II)
- Expression result for Hexavalent Chromium
 - Concentration of Hexavalent chromium (<0.10 µg/cm²) = Negative (sample coating is considered a non-Cr(VI) based coating)
 - Concentration of Hexavalent chromium (≥0.10 µg/cm² and ≤0.13 µg/cm²) = Inconclusive (unavoidable coating variations may influence the determination)
 - Concentration of Hexavalent chromium (>0.13 µg/cm²) = Positive (sample coating is considered to contain Cr(VI))
- Based on sum amount of PBB/PBDE limit, which is ≤1000mg/kg

Remark

- The test portion was totally dissolved for cadmium, lead & mercury test by using pre-conditioning method as mentioned above.
- IEC 62321 flowchart can be obtained from <https://cdnmedia.eurofins.com/apac/media/606192/efctm001-issue-2.pdf>
- Cr(VI) result, obtained from the calorimetric measurement specified in IEC 62321-7-1:2015 = 0.13 µg/cm²
- Cr(VI) result, converted from µg/cm² to mg/kg, using the calorimetric result in remark (3) and the coating mass provided by client = 49 mg/kg (≤1000 mg/kg)

Version Remark(s):

- Analytical Report AR-24-SV-034426-02 issued on 03/09/2024 will supersede previous version of report(s). Upon receipt of this revised copy, all earlier version of report(s) will be invalid immediately.

TEST REPORT

Report No: AR-24-SV-034426-02
 Customer: CSC Steel Sdn Bhd
 Date of Issue: 03/09/2024



Batch No: EUMYBM-00175780
 Sample No: 138-2024-08001658

This 3 page(s) of report and its attachment(s), if relevant, has/have been validated by



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 IKM Registered Chemist
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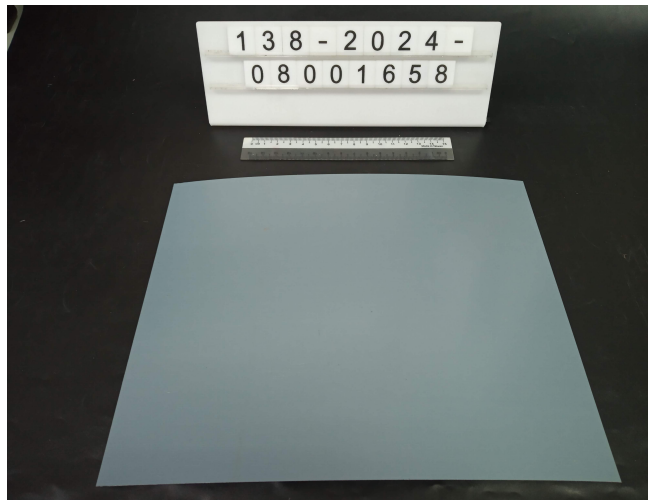
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Sample Photograph



- End of Report -