

**TEST REPORT**

**Report No:** AR-24-Q5-010794-01  
**Customer:** CSC Steel Sdn Bhd  
**Date of Issue:** 21/08/2024



**Batch No:** EUMY04-00011757

**To:** CSC Steel Sdn Bhd  
 180 Kawasan Industri Ayer Keroh  
 0  
 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:

**187-2024-08000872:**  
 REALZINC™ CR-FREE KH4138

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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- |  |   |
|--|---|
| ◆ Test result is not accredited.   | <b>N/A</b> means not applicable.  |
| ○ Test result is externally provided within Eurofins group and is accredited.      | <b>&lt;LOD</b> means not detected at or below the Limit of Detection (LOD). |
| ● Test result is externally provided within Eurofins group but is not accredited.  | <b>&lt;LOQ</b> means below the Limit of Quantification (LOQ).               |
| ■ Test result is externally provided outside Eurofins group and is accredited.     |   |
| □ Test result is externally provided outside Eurofins group but is not accredited. |   |

- End of Report -

**TEST REPORT**

**Report No:** AR-24-SV-034424-01  
**Customer:** CSC Steel Sdn Bhd  
**Date of Issue:** 21/08/2024



**Batch No:** EUMYBM-00175780  
**Sample No:** 138-2024-08001656

**To:** CSC Steel Sdn Bhd  
 180 Kawasan Industri Ayer Keroh  
 0  
 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 :**  
 REALZINC™ CR-FREE KH4138

**Client Sample Code:** 187-2024-08000872

**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), Hexavalent Chromium (Cr6+), 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

**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+)	-	negative	-	IEC 62321-7-1:2015	Refer Note 2
SVK16	<b>Polybrominated Biphenyl (PBBs)</b>				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-034424-01  
**Customer:** CSC Steel Sdn Bhd  
**Date of Issue:** 21/08/2024



**Batch No:** EUMYBM-00175780  
**Sample No:** 138-2024-08001656

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
<b>SVK17</b>	<b>Polybrominated Diphenyl Ether (PBDEs)</b>				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
<b>SVV1Q</b>	<b>Phthalates</b>				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 ( $<0.10 \mu\text{g}/\text{cm}^2$ ) = Negative (sample coating is considered a non-Cr(VI) based coating)
  - Concentration of Hexavalent chromium ( $\geq 0.10 \mu\text{g}/\text{cm}^2$  and  $\leq 0.13 \mu\text{g}/\text{cm}^2$ ) = Inconclusive (unavoidable coating variations may influence the determination)
  - Concentration of Hexavalent chromium ( $>0.13 \mu\text{g}/\text{cm}^2$ ) = Positive (sample coating is considered to contain Cr(VI))
- Based on sum amount of PBB/PBDE limit, which is  $\leq 1000\text{mg}/\text{kg}$

**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>

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

ChM. Sheue Fen Ong, B. Sc (Hons) Industrial Chemistry  
 IKM Registered Chemist  
 Registered No.:M/2864/5629/09

## TEST REPORT

Report No: AR-24-SV-034424-01  
Customer: CSC Steel Sdn Bhd  
Date of Issue: 21/08/2024



Batch No: EUMYBM-00175780  
Sample No: 138-2024-08001656

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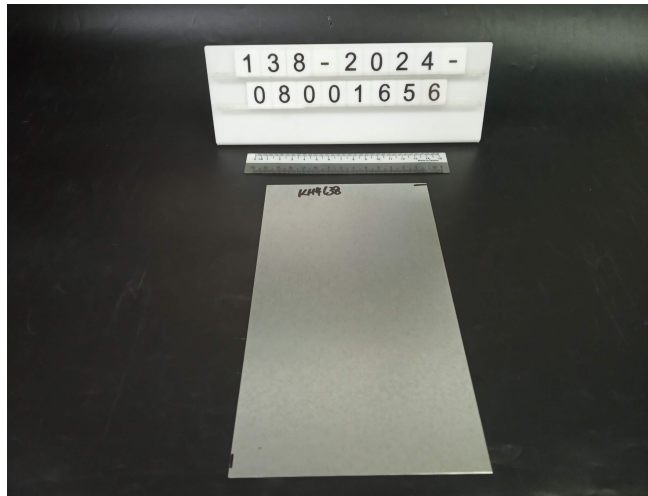
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N/A means not applicable.

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<LOQ means below the Limit of Quantification (LOQ)

## Sample Photograph



- End of Report -