

CERTIFICATE OF ACCREDITATION

CTK Co.,Ltd.

Accreditation No. : KT482

Corporation Registration No. : 134511-0029478

Address of Laboratory : (Branch site)52-17 Sinjeong-ro 41beon-gil, Giheung-gu, Yongin-si, Gyeonggi-do, Republic of Korea

Date of Initial Accreditation : July 15, 2011

Validity of Accreditation : October 14, 2023 ~ October 13, 2027

Scope of Accreditation : Attached Annex

Date of issue : October 13, 2023

This testing laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to Joint ISO-ILAC-IAF Communiqué).



CHIN CHONGWOOK

Head

Korea Laboratory Accreditation Scheme

Korea Laboratory Accreditation Scheme

No. KT482

02. Chemical Testing

02.008 Other Material and Products

Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
BS EN 14582 : 2016	Consumer products and their materials	Characterization of waste-Halogen and sulfur content - oxygen combustion in closed systems and determination methods	F : 0.03 g/kg or more Cl : 0.03 g/kg or more Br : 0.03 g/kg or more I : 0.03 g/kg or more	BS	N
ISO 14855-1:2012	Plastic materials	Determination of the ultimate aerobic biodegradability of plastic materials under controlled composting conditions -- Method by analysis of evolved carbon dioxide -- Part 1: General method	(0 ~ 99.9) %	BS	N
KS M ISO 14855-1 : 2012	Plastic materials	Determination of the ultimate aerobic biodegradability of plastic materials under controlled composting conditions — Method by analysis of evolved carbon dioxide — Part 1: General method	(0 ~ 99.9) %	BS	N

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02. Chemical Testing

02.017 Foods

Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
MFDS's Notification No. 2023-29 (2023.04.28.)	Foods	Korean Food Standards Code Chapter 8.General Test Method 9. Analysis Methods of Harzardous Substances 9.1 Heavy Metals 9.1.2 Pb(Pb) Na.Microwave Da.Analysis 1)ICP-MS	above 0.01 mg/kg	BS	N
MFDS's Notification No. 2023-29 (2023.04.28.)	Foods	Korean Food Standards Code Chapter 8.General Test Method 9. Analysis Methods of Harzardous Substances 9.1 Heavy Metals 9.1.3 Cd(Cd) Na. Microwave Da. Analysis 1)ICP-MS	above 0.01 mg/kg	BS	N
MFDS's Notification No. 2023-29 (2023.04.28.)	Foods	Korean Food Standards Code Chapter 8.General Test Method 9. Analysis Methods of Harzardous Substances 9.1 Heavy Metals 9.1.4 As(As) Na. Microwave Da.Analysis 1)ICP-MS	above 0.01 mg/kg	BS	N
MFDS's Notification No. 2023-29 (2023.04.28.)	Foods	Korean Food Standards Codex Chapter 8. General Test Methods 7. Pesticide in Food 7.3 Residues in livestock and Aquatic products 7.3.1 multiresidue methods 7.3.1.7 42 multiresidue Test Methods including Azoxystrobin	Fenbuconazole 0.01 mg/kg or more	BS	N

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02. Chemical Testing

02.025 Indoor and other environments

Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
CPSC-CH-C1001-09.4	Indoor and other environments	Standard Operating Procedure for Determination of Phthalates January 17, 2018: GC-MS	DBP : (50 ~ 1 000) mg/kg BBP : (50 ~ 1 000) mg/kg DEHP : (50 ~ 1 000) mg/kg DIBP : (50 ~ 1 000) mg/kg	BS	N
CPSC-CH-E1001-08.3	Indoor and other environments	Standard Operating Procedure for Determining Total Lead (Pb) in Children's Metal Products(including children's Metal Jewelry), Revision November 15, 2012: ICP-OES	5 mg/kg or more	BS	N
CPSC-CH-E1002-08.3	Indoor and other environments	Standard Operating Procedure for Determining Total Lead (Pb) in Non-Metal Children's Products, Revision November 15, 2012: ICP-OES	5 mg/kg or more	BS	N
CPSC-CH-E1003-09.1	Indoor and other environments	Standard Operating Procedure for Determining Lead (Pb) in Paint and Other Similar Surface Coatings, February 25, 2011: ICP-OES	5 mg/kg or more	BS	N
CPSC-CH-E1004-11	Indoor and other environments	Standard Operating Procedure for Determining Cadmium (Cd) Extractability from Children's Metal Jewelry, February 03, 2011: ICP-OES	(0.2 ~ 250) mg/kg	BS	N
IEC 62321-10:2020	Indoor and other environments	Determination of certain substances in electrotechnical products - Part 10: Polycyclic aromatic hydrocarbons (PAHs) in polymers and electronics by gas chromatography-mass spectrometry (GC-MS)	0.2 mg/kg or more	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC 62321-4 : 2013	Indoor and other environments	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 : ICP-OES	1 mg/kg or more	BS	N
IEC 62321-5 : 2013	Indoor and other environments	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 : ICP-OES	Cd : 0.5 mg/kg or more Cr : 5 mg/kg or more Pb : 5 mg/kg or more	BS	N
IEC 62321-6:2015	Indoor and other environments	Determination of certain substances in electrotechnical products - Part 6: Polybrominated biphenyls and polybrominated diphenyl ethers in polymers by gas chromatography - mass spectrometry (GC-MS)	(5 ~ 5 000) mg/kg	BS	N
IEC 62321-7- 1:2015	Indoor and other environments	Determination of certain substances in electrotechnical products - Part 7-1: Hexavalent chromium - Presence of hexavalent chromium (Cr(VI)) in colourless and coloured corrosionprotected coatings on metals by the colorimetric method	0.1 µg/cm ² or more	BS	N
IEC 62321-7- 2:2017	Indoor and other environments	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	(8 ~ 1 000) mg/kg	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
IEC 62321-8:2017	Indoor and other environments	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):GC-MS	DBP : (50 ~ 1 000) mg/kg BBP : (50 ~ 1 000) mg/kg DEHP : (50 ~ 1 000) mg/kg DIBP : (50 ~ 1 000) mg/kg	BS	N
KS C IEC 62321-7-1:2015	Indoor and other environments	Determination of certain substances in electrotechnical products - Part 7-1: Hexavalent chromium - Presence of hexavalent chromium (Cr(VI)) in colourless and coloured corrosionprotected coatings on metals by the colorimetric method	0.1 $\mu\text{g}/\text{cm}^2$ or more	BS	N
KS C IEC 62321-4 : 2014	Indoor and other environments	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 : ICP-OES	(0.5 ~ 250) mg/kg	BS	N
KS C IEC 62321-5 : 2014	Indoor and other environments	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 : ICP-OES	Cd : (0.2 ~ 250) mg/kg Pb : (5 ~ 1 250) mg/kg Cr : (5 ~ 1 250) mg/kg	BS	N

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Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
KS C IEC 62321-6:2017	Indoor and other environments	Determination of certain substances in electrotechnical products - Part 6: Polybrominated biphenyls and polybrominated diphenyl ethers in polymers by gas chromatography - mass spectrometry (GC-MS)	(5 ~ 5 000) mg/kg	BS	N
KS C IEC62321-10:2020	Indoor and other environments	DETERMINATION OF CERTAIN SUBSTANCES IN ELECTROTECHNICAL PRODUCTS — Part 10: Polycyclic aromatic hydrocarbons (PAHs) in polymers and electronics by gas chromatography-mass spectrometry (GC-MS)	0.2 mg/kg or more	BS	N

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09. Biological Testing

09.002 Microorganisms

Test method	Materials/ Products	Standard designation	Test range	Site	Field testing
MFDS's Notification No. 2023-29 (2023.04.28.)	Microorganism	Korean Food Standards Code Chapter 8.General Test Method 4. Microbial test method 4.11 Salmonella spp.	Qualitative test(Positive/Negative)	BS	N
MFDS's Notification No. 2023-29 (2023.04.28.)	Microorganism	Korean Food Standards Code Chapter 8.General Test Method 4. Microbial test method 4.12 Staphylococcus aureus 4.12.1 Qualitative test	Qualitative test(Positive/Negative)	BS	N
MFDS's Notification No. 2023-29 (2023.04.28.)	Microorganism	Korean Food Standards Code Chapter 8.General Test Method 4. Microbial test method 4.8 Escherichia coli 4.8.1 Qualitative test Ga. Limit method	Qualitative test(Positive/Negative)	BS	N

End.