

Date:

21 Mar, 2018

Applicant: FRAENKISCHE PIPE SYSTEM(SHANGHAI)CO. LTD

537/1 BAI AN ROAD ANTING, JIADING,

SHANGHAI,CHINA Attn: WU JUN

Sample Description:

One (1) group of submitted sample said to be **Black plastic**Item Name : PA66
Item No. : 00908859

Buyer : Frankische Pipe System (Shanghai) Co., Ltd

Tests Conducted:

As requested by the applicant, for details refer to attached page(s).

Conclusion:

Tested SamplesStandardResultSubmitted SampleRestriction of the use of certain hazardous substance inPass

electrical and electronic equipment (RoHS Directive

2011/65/EU and (EU) 2015/863)

To be continued

Authorized By:

For Intertek Testing Services Ltd., Shanghai

Leo Shi

General Manager







**Tests Conducted** 

## **RoHS Chemical Test**

# (A) Test Result Summary:

Cadmium (Cd) Content (mg/kg) Lead (Pb) Content (mg/kg) Mercury (Hg) Content (mg/kg) ND Mercury (Hg) Content (mg/kg) ND Polybrominated Biphenyls (PBBs) Content (mg/kg) Monobromobiphenyl (MonoBB) Dibromobiphenyl (MonoBB) ND Tribromobiphenyl (TetraBB) ND Tetrabromobiphenyl (TetraBB) ND Hexabromobiphenyl (PentaBB) ND Octabromobiphenyl (HeptaBB) ND Octabromobiphenyl (HeptaBB) ND Octabromobiphenyl (NonaBB) ND Nonabromobiphenyl (PleptaBB) ND Nonabromobiphenyl (NonaBB) ND Decabromobiphenyl (DecaBB) ND Nonabromobiphenyl (NonaBB) ND Decabromobiphenyl (NonaBB) ND Decabromobiphenyl (Beter (MonoBDE) Dibromodiphenyl Ether (MonoBDE) ND Dibromodiphenyl Ether (TriBDE) ND Tetrabromodiphenyl Ether (TriBDE) ND Tetrabromodiphenyl Ether (TetraBDE) ND Hexabromodiphenyl Ether (HexaBDE) ND Decabromodiphenyl Ether (HexaBDE) ND Decabromodiphenyl Ether (CotaBDE) ND Decabromodiphenyl Ether (CotaBDE) ND Decabromodiphenyl Ether (NonaBDE) ND Decabromodiphenyl Ether (HexaBDE) ND Decabromodiphenyl Ether (HexaBDE) ND Decabromodiphenyl Ether (CotaBDE) ND Nonabromodiphenyl Ether (NonaBDE) ND Decabromodiphenyl Ether (DecaBDE) ND Dibutyl phthalate (DBP) ND Dibutyl phthalate (DBP) ND	Testing Item	Result
Mercury (Hg) Content (mg/kg)  Chromium (VI)(Cr <sup>6+</sup> ) Content (mg/kg)  ND  Polybrominated Biphenyls (PBBs) Content (mg/kg)  Monobromobiphenyl (MonoBB)  ND  Dibromobiphenyl (TriBB)  Tribromobiphenyl (TetraBB)  Pentabromobiphenyl (PentaBB)  ND  Hexabromobiphenyl (PentaBB)  ND  Cotabromobiphenyl (HeptaBB)  ND  Octabromobiphenyl (NonaBB)  ND  ND  Octabromobiphenyl (NonaBB)  ND  ND  Polybrominated Diphenyl Ether (PBDEs) Content (mg/kg)  Monobromodiphenyl Ether (MonoBDE)  Dibromodiphenyl Ether (TriBDE)  Tribromodiphenyl Ether (TriBDE)  ND  Pentabromodiphenyl Ether (PentaBBE)  ND  Octabromodiphenyl Ether (PBDEs)  ND  Dibromodiphenyl Ether (TriBDE)  ND  Tribromodiphenyl Ether (PentaBDE)  ND  Pentabromodiphenyl Ether (PentaBDE)  ND  Pentabromodiphenyl Ether (PentaBDE)  ND  Hexabromodiphenyl Ether (HexaBDE)  ND  Octabromodiphenyl Ether (HexaBDE)  ND  ND  ND  ND  ND  ND  ND  ND  ND  N	Cadmium (Cd) Content (mg/kg)	ND
Chromium (VI)(Cr <sup>6+</sup> ) Content (mg/kg) Polybrominated Biphenyls (PBBs) Content (mg/kg) Monobromobiphenyl (MonoBB) Dibromobiphenyl (DiBB) ND Tribromobiphenyl (TriBB) ND Tetrabromobiphenyl (TetraBB) Pentabromobiphenyl (PentaBB) ND Hexabromobiphenyl (PentaBB) ND Hetyabromobiphenyl (HexaBB) Hopabromobiphenyl (HeyaBB) Hopabromobiphenyl (HeyaBB) ND Octabromobiphenyl (NonaBB) ND Octabromobiphenyl (NonaBB) ND Decabromobiphenyl (NonaBB) ND Decabromobiphenyl (PecaBB) ND Dibromodiphenyl Ethers (PBDEs) Content (mg/kg) Monobromodiphenyl Ether (MonoBDE) ND Tribromodiphenyl Ether (DiBDE) ND Tribromodiphenyl Ether (TriBDE) ND Tetrabromodiphenyl Ether (TetraBDE) ND Pentabromodiphenyl Ether (HexaBDE) ND Hexabromodiphenyl Ether (HexaBDE) ND Hexabromodiphenyl Ether (HeptaBDE) ND Doctabromodiphenyl Ether (HeptaBDE) ND Nonabromodiphenyl Ether (CotaBDE) ND Nonabromodiphenyl Ether (OctaBDE) ND Nonabromodiphenyl Ether (OctaBDE) ND Nonabromodiphenyl Ether (OctaBDE) ND Nonabromodiphenyl Ether (DecaBDE) ND ND Nonabromodiphenyl Ether (DecaBDE) ND ND ND Nonabromodiphenyl Ether (DecaBDE) ND	Lead (Pb) Content (mg/kg)	ND
Polybrominated Biphenyls (PBBs) Content (mg/kg)  Monobromobiphenyl (MonoBB)  Dibromobiphenyl (DiBB)  Tribromobiphenyl (TriBB)  ND  Tetrabromobiphenyl (TetraBB)  Pentabromobiphenyl (PentaBB)  Hexabromobiphenyl (HexaBB)  Hexabromobiphenyl (HexaBB)  ND  Cctabromobiphenyl (HeptaBB)  ND  Octabromobiphenyl (NonaBB)  ND  Decabromobiphenyl (DecaBB)  ND  Polybrominated Diphenyl Ethers (PBDEs) Content (mg/kg)  Monobromodiphenyl Ether (MonoBDE)  Dibromodiphenyl Ether (TriBDE)  Tribromodiphenyl Ether (TriBDE)  Tetrabromodiphenyl Ether (TetraBDE)  Pentabromodiphenyl Ether (HexaBDE)  Hexabromodiphenyl Ether (HexaBDE)  Hexabromodiphenyl Ether (HeptaBDE)  ND  Hexabromodiphenyl Ether (HeptaBDE)  ND  Hexabromodiphenyl Ether (HeptaBDE)  ND  Hexabromodiphenyl Ether (CotaBDE)  ND  Doctabromodiphenyl Ether (OctaBDE)  ND  ND  ND  Decabromodiphenyl Ether (DecaBDE)  ND  ND  Decabromodiphenyl Ether (DecaBDE)  ND  ND  Decabromodiphenyl Ether (DecaBDE)  ND  Decabromodiphenyl Ether (DecaBDE)  ND  Dibutyl benzyl phthalate (DBP)  ND  Dibutyl phthalate (DBP)	Mercury (Hg) Content (mg/kg)	ND
Monobromobiphenyl (Monobb) Dibromobiphenyl (DiBB) ND Tribromobiphenyl (TriBB) ND Tetrabromobiphenyl (TetraBB) ND Pentabromobiphenyl (PentaBB) ND Hexabromobiphenyl (HexaBB) ND Heptabromobiphenyl (HeptaBB) ND Octabromobiphenyl (NonaBB) ND Nonabromobiphenyl (NonaBB) ND Decabromobiphenyl (DecaBB) ND Decabromobiphenyl (DecaBB) ND Dolibrominated Diphenyl Ethers (PBDEs) Content (mg/kg) Monobromodiphenyl Ether (MonobDE) ND Tribromodiphenyl Ether (TriBDE) ND Tetrabromodiphenyl Ether (TriBDE) ND Tetrabromodiphenyl Ether (TetraBDE) ND Pentabromodiphenyl Ether (HexaBDE) ND Hexabromodiphenyl Ether (HexaBDE) ND Heptabromodiphenyl Ether (HeptaBDE) ND Docabromodiphenyl Ether (HeptaBDE) ND	Chromium (VI)(Cr <sup>6+</sup> ) Content (mg/kg)	ND
Dibromobiphenyl (DiBB) Tribromobiphenyl (TriBB) ND Tetrabromobiphenyl (PentaBB) Pentabromobiphenyl (PentaBB) ND Hexabromobiphenyl (HexaBB) ND Heptabromobiphenyl (HeptaBB) ND Octabromobiphenyl (NonaBB) ND Nonabromobiphenyl (NonaBB) ND Decabromobiphenyl (DecaBB) ND Decabromobiphenyl (DecaBB) ND Dibromodiphenyl Ethers (PBDEs) Content (mg/kg) Monobromodiphenyl Ether (MonoBDE) ND Dibromodiphenyl Ether (TriBDE) ND Tribromodiphenyl Ether (TriBDE) ND Tetrabromodiphenyl Ether (TetraBDE) Pentabromodiphenyl Ether (PentaBDE) ND Hexabromodiphenyl Ether (HexaBDE) ND Hexabromodiphenyl Ether (HexaBDE) ND Docabromodiphenyl Ether (NonaBDE) ND Decabromodiphenyl Ether (NonaBDE) ND ND ND Nonabromodiphenyl Ether (NonaBDE) ND ND Nonabromodiphenyl Ether (NonaBDE) ND ND Nonabromodiphenyl Ether (NonaBDE) ND ND Nonabromodiphenyl Ether (DecaBDE) ND ND Dibromodiphenyl Ether (DecaBDE) ND ND ND Dibromodiphenyl Ether (DecaBDE) ND ND ND Dibromodiphenyl Ether (NonaBDE) ND ND ND ND Dibromodiphenyl Ether (DecaBDE) ND	Polybrominated Biphenyls (PBBs) Content (mg/kg)	
Tribromobiphenyl (TriBB)  Tetrabromobiphenyl (TetraBB)  Pentabromobiphenyl (PentaBB)  ND  Hexabromobiphenyl (HexaBB)  ND  Heyabromobiphenyl (HeyaBB)  ND  Octabromobiphenyl (OctaBB)  ND  Nonabromobiphenyl (NonaBB)  ND  Decabromobiphenyl (NonaBB)  ND  Polybrominated Diphenyl Ether (PBDEs) Content (mg/kg)  Monobromodiphenyl Ether (MonoBDE)  Dibromodiphenyl Ether (TriBDE)  Tribromodiphenyl Ether (TriBDE)  ND  Tetrabromodiphenyl Ether (TetraBDE)  Pentabromodiphenyl Ether (HexaBDE)  Hexabromodiphenyl Ether (HexaBDE)  ND  Hexabromodiphenyl Ether (HexaBDE)  ND  Heptabromodiphenyl Ether (NonaBDE)  ND  Heptabromodiphenyl Ether (NonaBDE)  ND  Heptabromodiphenyl Ether (HexaBDE)  ND  Heptabromodiphenyl Ether (NonaBDE)  ND  ND  ND  ND  ND  ND  ND  ND  ND  Pentabromodiphenyl Ether (NonaBDE)  ND  ND  ND  ND  ND  ND  ND  ND  ND  N	Monobromobiphenyl (MonoBB)	ND
Tetrabromobiphenyl (TetraBB) Pentabromobiphenyl (PentaBB) ND Hexabromobiphenyl (HexaBB) ND Heptabromobiphenyl (HeytaBB) ND Octabromobiphenyl (HeptaBB) ND Nonabromobiphenyl (OctaBB) ND Nonabromobiphenyl (NonaBB) ND Decabromobiphenyl (DecaBB) ND Polybrominated Diphenyl Ethers (PBDEs) Content (mg/kg) Monobromodiphenyl Ether (MonoBDE) ND Dibromodiphenyl Ether (DiBDE) ND Tribromodiphenyl Ether (TriBDE) ND Tetrabromodiphenyl Ether (TetraBDE) ND Pentabromodiphenyl Ether (PentaBDE) ND Hexabromodiphenyl Ether (HexaBDE) ND Hexabromodiphenyl Ether (HexaBDE) ND Heptabromodiphenyl Ether (HotaBDE) ND Docabromodiphenyl Ether (CotaBDE) ND Nonabromodiphenyl Ether (NonaBDE) ND Nonabromodiphenyl Ether (DecaBDE) ND Nonabromodiphenyl Ether (DecaBDE) ND Nonabromodiphenyl Ether (DecaBDE) ND Nonabromodiphenyl Ether (DecaBDE) ND Nobelaties Content (mg/kg) Bis(2-ethylhexyl)phthalate (DBP) ND Dibutyl benzyl phthalate (DBP) ND		ND
Pentabromobiphenyl (PentaBB)  Hexabromobiphenyl (HexaBB)  ND  Heptabromobiphenyl (HeptaBB)  ND  Octabromobiphenyl (OctaBB)  ND  Nonabromobiphenyl (NonaBB)  Decabromobiphenyl (DecaBB)  ND  Polybrominated Diphenyl Ethers (PBDEs) Content (mg/kg)  Monobromodiphenyl Ether (MonoBDE)  Dibromodiphenyl Ether (DiBDE)  Tribromodiphenyl Ether (TriBDE)  Tetrabromodiphenyl Ether (TetraBDE)  Pentabromodiphenyl Ether (PentaBDE)  ND  Hexabromodiphenyl Ether (PentaBDE)  Hopabromodiphenyl Ether (HexaBDE)  ND  Hexabromodiphenyl Ether (HexaBDE)  ND  Heptabromodiphenyl Ether (HopaBDE)  ND  Heptabromodiphenyl Ether (CotaBDE)  ND  ND  Nonabromodiphenyl Ether (NonaBDE)  ND  ND  ND  Nonabromodiphenyl Ether (DecaBDE)  ND  ND  ND  ND  ND  Phthalates Content (mg/kg)  Bis(2-ethylhexyl)phthalate (DBP)  ND  Dibutyl benzyl phthalate (DBP)	Tribromobiphenyl (TriBB)	ND
Hexabromobiphenyl (HexaBB)  Heptabromobiphenyl (HeptaBB)  Octabromobiphenyl (OctaBB)  ND  Nonabromobiphenyl (NonaBB)  Decabromobiphenyl (DecaBB)  Polybrominated Diphenyl Ethers (PBDEs) Content (mg/kg)  Monobromodiphenyl Ether (MonoBDE)  Dibromodiphenyl Ether (DiBDE)  Tribromodiphenyl Ether (TriBDE)  Tetrabromodiphenyl Ether (TretraBDE)  Pentabromodiphenyl Ether (PentaBDE)  Hexabromodiphenyl Ether (HexaBDE)  Hexabromodiphenyl Ether (HexaBDE)  ND  Hexabromodiphenyl Ether (HexaBDE)  ND  Octabromodiphenyl Ether (OctaBDE)  ND  ND  Nonabromodiphenyl Ether (NonaBDE)  ND  ND  Phthalates Content (mg/kg)  Bis(2-ethylhexyl)phthalate (DEHP)  ND  Dibutyl phthalate (DBP)  ND	Tetrabromobiphenyl (TetraBB)	ND
Heptabromobiphenyl (HeptaBB)  Octabromobiphenyl (OctaBB)  ND  Nonabromobiphenyl (NonaBB)  Decabromobiphenyl (DecaBB)  Polybrominated Diphenyl Ethers (PBDEs) Content (mg/kg)  Monobromodiphenyl Ether (MonoBDE)  Dibromodiphenyl Ether (DiBDE)  Tribromodiphenyl Ether (TriBDE)  Tetrabromodiphenyl Ether (TetraBDE)  Pentabromodiphenyl Ether (PentaBDE)  Hexabromodiphenyl Ether (HexaBDE)  Hexabromodiphenyl Ether (HexaBDE)  ND  Heptabromodiphenyl Ether (HoptaBDE)  ND  Octabromodiphenyl Ether (OctaBDE)  ND  Nonabromodiphenyl Ether (NonaBDE)  ND  Nonabromodiphenyl Ether (NonaBDE)  ND  Nonabromodiphenyl Ether (DecaBDE)  ND  Decabromodiphenyl Ether (DecaBDE)  ND  Decabromodiphenyl Ether (DecaBDE)  ND  Dibutyl phthalate (DBP)  ND	Pentabromobiphenyl (PentaBB)	ND
Octabromobiphenyl (OctaBB)  ND  Nonabromobiphenyl (NonaBB)  Decabromobiphenyl (DecaBB)  Polybrominated Diphenyl Ethers (PBDEs) Content (mg/kg)  Monobromodiphenyl Ether (MonoBDE)  Dibromodiphenyl Ether (DiBDE)  Tribromodiphenyl Ether (TriBDE)  Tetrabromodiphenyl Ether (TetraBDE)  Pentabromodiphenyl Ether (PentaBDE)  Hexabromodiphenyl Ether (HexaBDE)  Heptabromodiphenyl Ether (HexaBDE)  ND  Heptabromodiphenyl Ether (HoptaBDE)  ND  Octabromodiphenyl Ether (OctaBDE)  ND  Nonabromodiphenyl Ether (NonaBDE)  ND  Phthalates Content (mg/kg)  Bis(2-ethylhexyl)phthalate (DEHP)  ND  Dibutyl phthalate (DBP)  ND	Hexabromobiphenyl (HexaBB)	ND
Nonabromobiphenyl (NonaBB)  Decabromobiphenyl (DecaBB)  Polybrominated Diphenyl Ethers (PBDEs) Content (mg/kg)  Monobromodiphenyl Ether (MonoBDE)  Dibromodiphenyl Ether (DiBDE)  Tribromodiphenyl Ether (TriBDE)  Tetrabromodiphenyl Ether (TetraBDE)  Pentabromodiphenyl Ether (PentaBDE)  Hexabromodiphenyl Ether (HexaBDE)  Heyabromodiphenyl Ether (HexaBDE)  ND  Heptabromodiphenyl Ether (HeptaBDE)  ND  Octabromodiphenyl Ether (OctaBDE)  ND  Nonabromodiphenyl Ether (NonaBDE)  ND  Phthalates Content (mg/kg)  Bis(2-ethylhexyl)phthalate (DEHP)  Butyl benzyl phthalate (DBP)  ND	Heptabromobiphenyl (HeptaBB)	ND
Decabromobiphenyl (DecaBB)  Polybrominated Diphenyl Ethers (PBDEs) Content (mg/kg)  Monobromodiphenyl Ether (MonoBDE)  Dibromodiphenyl Ether (DiBDE)  Tribromodiphenyl Ether (TriBDE)  Tetrabromodiphenyl Ether (TetraBDE)  Pentabromodiphenyl Ether (PentaBDE)  Hexabromodiphenyl Ether (PentaBDE)  Heyabromodiphenyl Ether (HexaBDE)  Heptabromodiphenyl Ether (HeptaBDE)  ND  Octabromodiphenyl Ether (OctaBDE)  ND  Nonabromodiphenyl Ether (NonaBDE)  ND  Nonabromodiphenyl Ether (NonaBDE)  ND  Phthalates Content (mg/kg)  Bis(2-ethylhexyl)phthalate (DEHP)  ND  Dibutyl phthalate (DBP)  ND	Octabromobiphenyl (OctaBB)	ND
Polybrominated Diphenyl Ethers (PBDEs) Content (mg/kg)  Monobromodiphenyl Ether (MonoBDE)  Dibromodiphenyl Ether (DiBDE)  Tribromodiphenyl Ether (TriBDE)  Tetrabromodiphenyl Ether (TetraBDE)  Pentabromodiphenyl Ether (PentaBDE)  Hexabromodiphenyl Ether (HexaBDE)  Heptabromodiphenyl Ether (HexaBDE)  ND  Octabromodiphenyl Ether (HeptaBDE)  ND  NO  Octabromodiphenyl Ether (OctaBDE)  No  Nonabromodiphenyl Ether (NonaBDE)  No  Phthalates Content (mg/kg)  Bis(2-ethylhexyl)phthalate (DEHP)  Butyl benzyl phthalate (BBP)  ND  ND  ND  ND  ND  Dibutyl phthalate (DBP)	Nonabromobiphenyl (NonaBB)	ND
Monobromodiphenyl Ether (MonoBDE)  Dibromodiphenyl Ether (DiBDE)  Tribromodiphenyl Ether (TriBDE)  ND  Tetrabromodiphenyl Ether (TetraBDE)  Pentabromodiphenyl Ether (PentaBDE)  Hexabromodiphenyl Ether (HexaBDE)  Hexabromodiphenyl Ether (HexaBDE)  ND  Heptabromodiphenyl Ether (HeptaBDE)  ND  Octabromodiphenyl Ether (OctaBDE)  ND  Nonabromodiphenyl Ether (NonaBDE)  ND  Decabromodiphenyl Ether (DecaBDE)  ND  Phthalates Content (mg/kg)  Bis(2-ethylhexyl)phthalate (DEHP)  Butyl benzyl phthalate (BBP)  ND  Dibutyl phthalate (DBP)	Decabromobiphenyl (DecaBB)	ND
Dibromodiphenyl Ether (DiBDE)  Tribromodiphenyl Ether (TriBDE)  Tetrabromodiphenyl Ether (TetraBDE)  Pentabromodiphenyl Ether (PentaBDE)  Hexabromodiphenyl Ether (HexaBDE)  Heptabromodiphenyl Ether (HexaBDE)  ND  Heptabromodiphenyl Ether (HeptaBDE)  Octabromodiphenyl Ether (OctaBDE)  No  Nonabromodiphenyl Ether (NonaBDE)  No  Decabromodiphenyl Ether (DecaBDE)  Phthalates Content (mg/kg)  Bis(2-ethylhexyl)phthalate (DEHP)  Butyl benzyl phthalate (BBP)  ND	Polybrominated Diphenyl Ethers (PBDEs) Content (mg/kg)	
Tribromodiphenyl Ether (TriBDE)  Tetrabromodiphenyl Ether (TetraBDE)  Pentabromodiphenyl Ether (PentaBDE)  Hexabromodiphenyl Ether (HexaBDE)  Heptabromodiphenyl Ether (HeptaBDE)  ND  Octabromodiphenyl Ether (OctaBDE)  Nonabromodiphenyl Ether (NonaBDE)  Nonabromodiphenyl Ether (NonaBDE)  ND  Decabromodiphenyl Ether (DecaBDE)  Phthalates Content (mg/kg)  Bis(2-ethylhexyl)phthalate (DEHP)  Butyl benzyl phthalate (BBP)  ND  ND	Monobromodiphenyl Ether (MonoBDE)	ND
Tetrabromodiphenyl Ether (TetraBDE) Pentabromodiphenyl Ether (PentaBDE) ND Hexabromodiphenyl Ether (HexaBDE) ND Heptabromodiphenyl Ether (HeptaBDE) ND Octabromodiphenyl Ether (OctaBDE) ND Nonabromodiphenyl Ether (NonaBDE) ND Decabromodiphenyl Ether (DecaBDE) ND Phthalates Content (mg/kg) Bis(2-ethylhexyl)phthalate (DEHP) ND Dibutyl phthalate (DBP) ND ND	Dibromodiphenyl Ether (DiBDE)	ND
Pentabromodiphenyl Ether (PentaBDE)  Hexabromodiphenyl Ether (HexaBDE)  ND  Heptabromodiphenyl Ether (HeptaBDE)  Octabromodiphenyl Ether (OctaBDE)  No  Nonabromodiphenyl Ether (NonaBDE)  ND  Decabromodiphenyl Ether (DecaBDE)  Phthalates Content (mg/kg)  Bis(2-ethylhexyl)phthalate (DEHP)  Butyl benzyl phthalate (BBP)  Dibutyl phthalate (DBP)	Tribromodiphenyl Ether (TriBDE)	ND
Hexabromodiphenyl Ether (HexaBDE)  Heptabromodiphenyl Ether (HeptaBDE)  Octabromodiphenyl Ether (OctaBDE)  ND  Nonabromodiphenyl Ether (NonaBDE)  Decabromodiphenyl Ether (DecaBDE)  Phthalates Content (mg/kg)  Bis(2-ethylhexyl)phthalate (DEHP)  Butyl benzyl phthalate (BBP)  Dibutyl phthalate (DBP)	Tetrabromodiphenyl Ether (TetraBDE)	ND
Heptabromodiphenyl Ether (HeptaBDE)  Octabromodiphenyl Ether (OctaBDE)  ND  Nonabromodiphenyl Ether (NonaBDE)  Decabromodiphenyl Ether (DecaBDE)  Phthalates Content (mg/kg)  Bis(2-ethylhexyl)phthalate (DEHP)  Butyl benzyl phthalate (BBP)  Dibutyl phthalate (DBP)	Pentabromodiphenyl Ether (PentaBDE)	ND
Octabromodiphenyl Ether (OctaBDE)  Nonabromodiphenyl Ether (NonaBDE)  Decabromodiphenyl Ether (DecaBDE)  Phthalates Content (mg/kg)  Bis(2-ethylhexyl)phthalate (DEHP)  Butyl benzyl phthalate (BBP)  Dibutyl phthalate (DBP)	Hexabromodiphenyl Ether (HexaBDE)	ND
Nonabromodiphenyl Ether (NonaBDE)  Decabromodiphenyl Ether (DecaBDE)  Phthalates Content (mg/kg)  Bis(2-ethylhexyl)phthalate (DEHP)  Butyl benzyl phthalate (BBP)  Dibutyl phthalate (DBP)  ND	Heptabromodiphenyl Ether (HeptaBDE)	ND
Decabromodiphenyl Ether (DecaBDE)  Phthalates Content (mg/kg)  Bis(2-ethylhexyl)phthalate (DEHP)  Butyl benzyl phthalate (BBP)  Dibutyl phthalate (DBP)  ND	Octabromodiphenyl Ether (OctaBDE)	ND
Phthalates Content (mg/kg)  Bis(2-ethylhexyl)phthalate (DEHP)  Butyl benzyl phthalate (BBP)  Dibutyl phthalate (DBP)  ND	Nonabromodiphenyl Ether (NonaBDE)	ND
Bis(2-ethylhexyl)phthalate (DEHP)  Butyl benzyl phthalate (BBP)  Dibutyl phthalate (DBP)  ND  ND	Decabromodiphenyl Ether (DecaBDE)	ND
Butyl benzyl phthalate (BBP)  Dibutyl phthalate (DBP)  ND  ND	Phthalates Content (mg/kg)	
Dibutyl phthalate (DBP) ND	Bis(2-ethylhexyl)phthalate (DEHP)	ND
	Butyl benzyl phthalate (BBP)	ND
Diisobutyl phthalate (DIBP)	Dibutyl phthalate (DBP)	ND
	Diisobutyl phthalate (DIBP)	ND

Remark: mg/kg = milligram per kilogram

ND = Not detected





**Tests Conducted** 

### (B) RoHS Requirement:

Restricted Substances	Limits
Cadmium (Cd)	0.01% (100 mg/kg)
Lead (Pb)	0.1% (1000 mg/kg)
Mercury (Hg)	0.1% (1000 mg/kg)
Chromium (VI) (Cr <sup>5+</sup> )	0.1% (1000 mg/kg)
Polybrominated Biphenyls (PBBs)	0.1% (1000 mg/kg)
Polybrominated Diphenyl Ethers (PBDEs)	0.1% (1000 mg/kg)
Phthalates (DEHP, BBP, DBP, DIBP)	0.1% (1000 mg/kg)

The above limits were quoted from 2011/65/EU and (EU) 2015/863 for homogeneous material.

# (C) Test Method:

Testing Item	Testing Method	Reporting Limit
Cadmium (Cd) Content	With reference to IEC 62321-5 Edition 1.0:2013, by acid digestion until the tested sample was totally dissolved and determined by ICP - OES	2 mg/kg
Lead (Pb) Content	With reference to IEC 62321-5 Edition 1.0:2013, by acid digestion until the tested sample was totally dissolved and determined by ICP - OES	2 mg/kg
Mercury (Hg) Content	With reference to IEC 62321-4 Edition 1.0:2013, by acid digestion until the tested sample was totally dissolved and determined by ICP - OES	2 mg/kg
Chromium (VI)(Cr <sup>6+</sup> ) Content	With reference to IEC 62321 Edition 1.0:2008, by alkaline digestion and determined by UV-VIS Spectrophotometer	1 mg/kg
Polybrominated Biphenyls (PBBs)& Polybrominated Diphenyl Ethers (PBDEs) Content	With reference to IEC 62321-6 Edition 1.0:2015, by solvent extraction and determined by GC/MS and further HPLC confirmation when necessary	5 mg/kg
Phthalates (DEHP, BBP, DBP, DIBP) Content	With reference to IEC 62321-8 Edition 1.0:111/321/CD / EN 14372-2004/CPSC-CH-C1001-09.3,by solvent extraction and determined by GC/MS	100mg/kg

Date Sample Received: Mar.15, 2018 Testing Period: Mar.15, 2018 to Mar.19, 2018

esting Period: Mar. 15, 2016 to Mar. 19, 2016

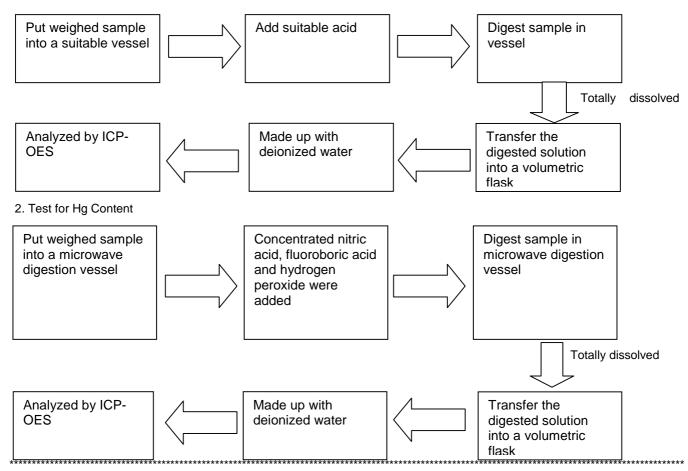




**Tests Conducted** 

### (D) Measurement Flowchart:

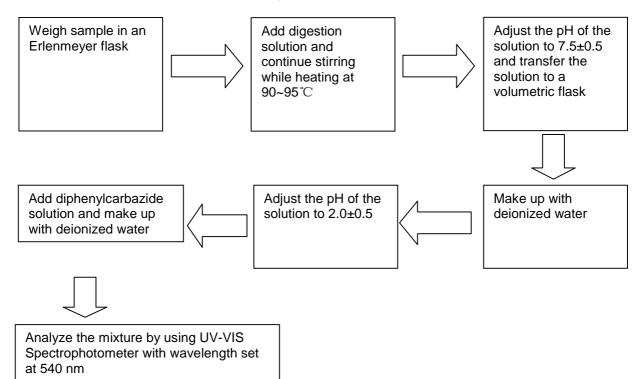
#### 1. Test for Cd/Pb Contents



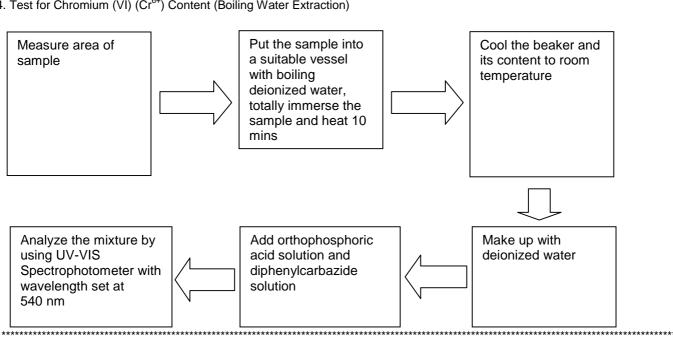


**Tests Conducted** 

3. Test for Chromium (VI) (Cr<sup>6+</sup>) Content (Alkaline Digestion)



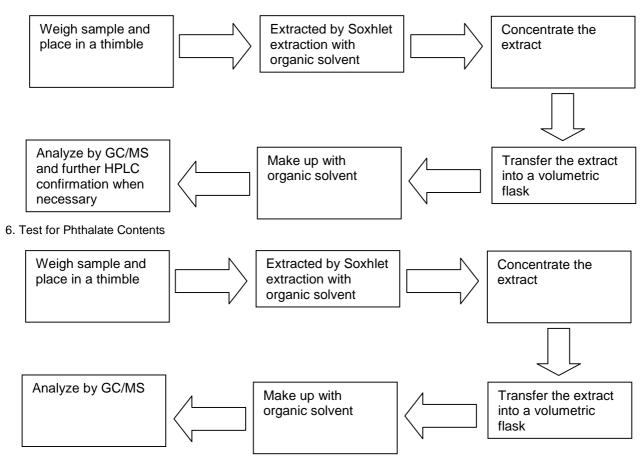
4. Test for Chromium (VI) (Cr<sup>6+</sup>) Content (Boiling Water Extraction)





**Tests Conducted** 

## 5. Test for PBBs/PBDEs Contents



#### Remarks:

\*1: list of appropriate acid:

<u>Material</u>	Acid added for digestion
Polymers	HNO <sub>3,</sub> HCI,HF,H <sub>2</sub> O <sub>2,</sub> H <sub>3</sub> BO <sub>3</sub>
Metals	HNO <sub>3,</sub> HCI,HF
Electronics	HNO <sub>3</sub> ,HCI,H <sub>2</sub> O <sub>2</sub> ,HBF <sub>4</sub>

\*2: If the result of spot test is positive, Chromium VI would be determined as detected.





**Tests Conducted** 



Picture of sample

Date Sample Received: Mar.15, 2018 Testing Period: Mar.15, 2018 to Mar.19, 2018

End of report

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