

Client Name	JIN A KWAK
Client Company	ABS Division
Application	Requested by Client
Sample Name/Description	ABS HF380
Sample Received	March 06, 2018
Testing Date	March 14, 2018 ~ March 14, 2018
Testing Environment	Temperature : (25 ± 5) °C, Humidity : (38 ± 12) % R.H.
Reporting Date	MAR. 14, 2018
Testing method	Please see the following page(s).
Results	Please see the following page(s).

1. The results shown in this report refer only to the sample with which the client provided. The sample name is referred as client assigned.
2. This report cannot be duplicated or utilized without prior permission.
3. This report can be reissued after approval by technical manager and director of analytical center

Tested by



Seul gi Kang / Analyst

Authorized by



Woongjin Lee / Technical Manager



This test report is not issued by TÜV SÜD lab and the qualified TÜV SÜD mark means our lab is qualified and registered as TÜV SÜD partner lab program with the specific scope and test standards or methods. This special TÜV SÜD mark is property of TÜV SÜD and valid only with the related valid attestation.

Result(s)

Sample Description : ABS HF380

Heavy Metals

Unit : mg/kg

Test Items	Results	MDL	Test Method
Pb	ND	5	ICP/OES, IEC 62321-5:2013
Cd	ND	2	
Cr	ND	2	
Hg	ND	1	TD(G)-AAS, IEC 62321-4:2013

* Cr content includes entire Cr species including Cr⁶⁺

Flame Retardants-PBBs/PBDEs

Unit : mg/kg

Test Items	Results	MDL	Test Method
Monobromobiphenyl	ND	5	GC/MS, IEC62321-6:2015
Dibromobiphenyl	ND	5	
Tribromobiphenyl	ND	5	
Tetrabromobiphenyl	ND	5	
Pentabromobiphenyl	ND	5	
Hexabromobiphenyl	ND	5	
Heptabromobiphenyl	ND	5	
Octabromobiphenyl	ND	5	
Nonabromobiphenyl	ND	5	
Decabromobiphenyl	ND	5	
Monobromodiphenyl ether	ND	5	
Dibromodiphenyl ether	ND	5	
Tribromodiphenyl ether	ND	5	
Tetrabromodiphenyl ether	ND	5	
Pentabromodiphenyl ether	ND	5	
Hexabromodiphenyl ether	ND	5	
Heptabromodiphenyl ether	ND	5	
Octabromodiphenyl ether	ND	5	
Nonabromodiphenyl ether	ND	5	
Decabromodiphenyl ether	ND	5	

* ND : Not Detected

* MDL : Method Detection Limit

Phthalates

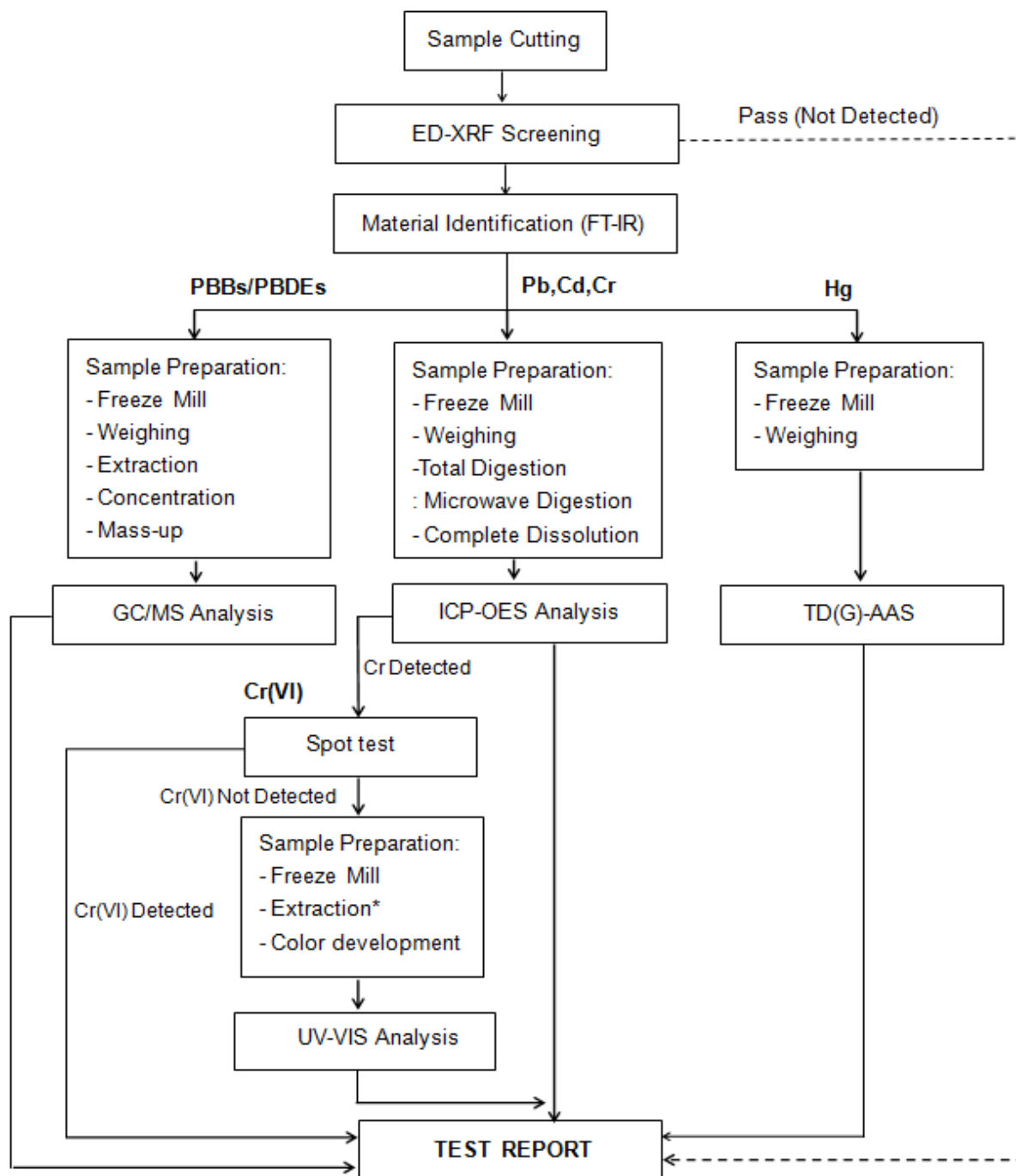
Unit : mg/kg

Test Items	Results	MDL	Test Method
Dimethyl phthalate	ND	50	GC/MS, KOI-0052-2K (In house method in compliance with KS M 1991:2015)
Diethyl phthalate	ND	50	
Di-n-butyl phthalate	ND	50	GC/MS, KS M 1991:2015
Di-iso-butyl phthalate	ND	50	
Butyl benzyl phthalate	ND	50	
Di-(2-ethylhexyl)- phthalate	ND	50	
Di-n-octyl phthalate	ND	50	
Di-iso-nonyl phthalate	ND	50	
Di-iso-decyl phthalate	ND	50	

* ND: Not Detected

* MDL: Method Detection Limit

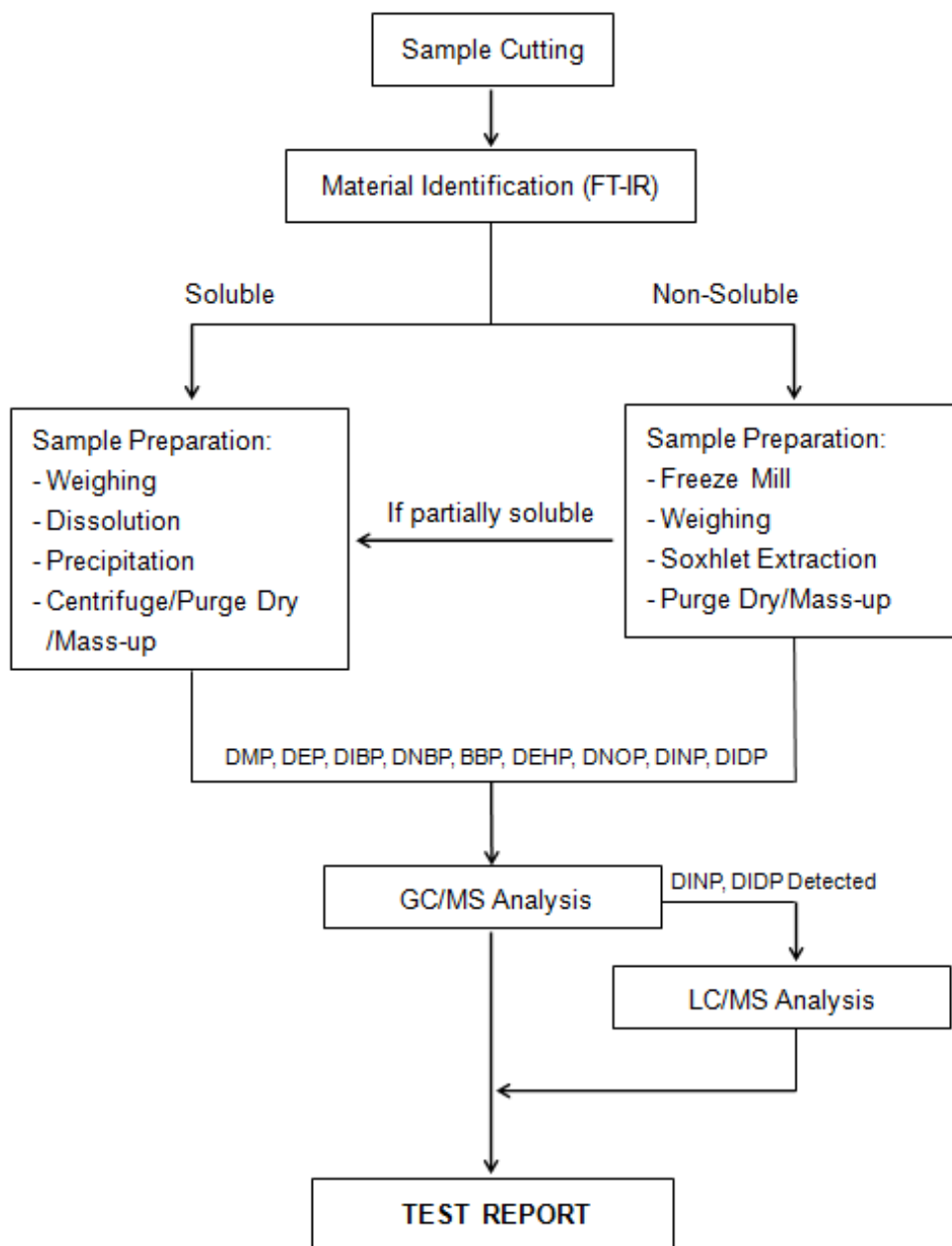
The Test Procedures (RoHS)



* (1) For non-metallic material, add alkaline digestion reagent

(2) For metallic material, add pure water and heat to boiling

The Test Procedures (Phthalates)



-End of Report-