



Analytical Testing Report

Tacflux 026S

Report Number: R-20240315-098

Prepared for:

Cliff Talbot

Indium Corporation

1676 Lincoln Avenue

Utica, NY 13503

P.O. #: N/A

March 29, 2024

NSL Analytical Services, Inc.
NSL Analytical
4450 Cranwood Parkway
Cleveland, Ohio 44128
Phone: 216-438-5200
Fax: 216-438-5050

**Tests
Requested:**

- European Directive 2015/863/EU Amending 2011 / 65 / EU Annex II (RoHS; Recasting 2001 / 95 / EC: Cadmium, Lead, Mercury, Hexavalent Chromium, Polybromobiphenyl (PBB), and Polybromodiphenylether (PBDE), (DIBP, DBP, BBP, DEHP) content. European Directive 2021/1297 Annex VII
- Antimony and Beryllium Content
- Total Halogen
- DnOP, DINP, DIDP, DnHP
- C9-C14, PFOA, PFOS, PFHxS



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Project Definition and Scope

European Directive 2015/863/EU Amending 2011 / 65 / EU Annex II (RoHS; Recasting 2001 / 95 / EC: European Directive 2021/1297 Annex VII

Cadmium, Lead, Mercury, Hexavalent Chromium, Polybromobiphenyl (PBB), and Polybromodiphenylether (PBDE) content.

Antimony, Beryllium Content, Total Halogen.

DIBP, DBP, BBP, DEHP, DnOP, DINP, DIDP, DnHP content.

PFOA, PFOS, PFHxS, C9-C14 content.

Sample Identification

The sample was received on March 15, 2024 and is labeled as indicated below.

Sample Number	Client Label
S-240315-155	Tacflux 026S

Method

With reference to IEC 62321-7-2:2017: Chromium (VI) analysis was conducted by UV-Visible Spectroscopy.

With reference to IEC 62321-6: 2015: PBB, PBDE analysis was conducted by Gas Chromatography – Mass Spectrometry (GC-MS).

With reference to IEC 62321-4: 2013: Mercury analysis was conducted by Inductively Coupled Plasma-Optical Emission Spectroscopy (ICP-OES).

With reference to IEC 62321-5: 2013: Lead, Cadmium and Chromium analysis was conducted by Inductively Coupled Plasma - Mass Spectrometry (ICP-MS).

Antimony and Beryllium analysis was conducted by Inductively Coupled Plasma - Mass Spectrometry (ICP-MS). Following Microwave Assisted Acid Digestion with reference to EPA 3051A/3052

With reference to IEC62321-3-2: 2013, BS EN 14582, ASTM D 7359: Halogen analysis was conducted by Ion Chromatography and SIE.

With reference to IEC62321-8 and CPSC-CH-C1001-09.3: DIBP, DBP, BBP, DEHP, DnOP, DINP, DIDP, DnHP were analyzed by Liquid Chromatography – Mass Spectrometry (LC-MS).

C9-C14, PFOA, PFOS and PFHxS by Liquid Chromatography – Mass Spectrometry (LC-MS).

Results, Opinions, and Interpretations

Table 1: RoHS Results

Test Item	Results (mg/kg)	Detection Limit (mg/kg)	Reference Limit (mg/kg)
	Sample # S-240315-155		
Lead (Pb)	ND	5	1000
Cadmium	ND	5	100
Chromium	ND	5	
Hexavalent Chromium (Cr(VI))	ND ²	1	1000
Mercury (Hg)	ND	5	1000
Sum of PBBs	ND ³	300	1000
Monobromobiphenyl	ND ³	100	-
Dibromobiphenyl	ND ³	100	-
Tribromobiphenyl	ND ³	10	-
Tetrabromobiphenyl	ND ³	10	-
Pentabromobiphenyl	ND ³	10	-
Hexabromobiphenyl	ND ³	10	-
Heptabromobiphenyl	ND ³	10	-
Octabromobiphenyl	ND ³	10	-
Nonabromobiphenyl	ND ³	10	-
Decabromobiphenyl	ND ³	10	-
Sum of PBDEs	ND ³	320	1000
Monobromodiphenyl ether	ND ³	100	-
Dibromodiphenyl ether	ND ³	10	-
Tribromodiphenyl ether	ND ³	10	-
Tetrabromodiphenyl ether	ND ³	10	-
Pentabromodiphenyl ether	ND ³	10	-
Hexabromodiphenyl ether	ND ³	10	-
Heptabromodiphenyl ether	ND ³	10	-
Octabromodiphenyl ether	ND ³	10	-
Nonabromodiphenyl ether	ND ³	50	-
Decabromodiphenyl ether	ND ³	100	-

Note: ND = Not Detected

Note: mg/kg = ppm

Note: ND² = Total Chromium analysis by ICP-MS was not detected in the submitted samples. Therefore, Hexavalent Chromium determination by UV-Visible spectroscopy was not performed.

Note: ND³ = Total Bromine by Ion Chromatography was determined to be < 250 ppm, therefore PBB and PBDE analysis by Gas Chromatography – Mass Spectrometry was not performed.

Table 2: Antimony and Beryllium Content

Test Item	Results (mg/kg)	Detection Limit (mg/kg)
	Sample # S-240315-155	
Antimony (Sb)	ND	5
Beryllium (Be)	ND	5

Table 3: Halogen Content

Test Item	Results (mg/kg)	Detection Limit (mg/kg)
	Sample # S-240315-155	
Chlorine (Cl)	ND	10
Bromine (Br)	ND	10
Fluorine (F)	ND	10
Iodine (I)	ND	10

Table 4: Phthalates Results

Test Item	Results (mg/kg)	Detection Limit (ug/kg)	Reference Limit (mg/kg)
	Sample # S-240315-155		
DIBP	ND	20	
DBP	ND	20	1000
BBP	ND	20	1000
DEHP	ND	20	1000
DnOP	ND	20	1000
DINP	ND	100	1000
DIDP	ND	100	1000
DnHP	ND	20	

Table 5: PFOA, PFOS, PFHxS and C9-C14 Content

Test Item	Results (ug/kg)	Detection Limit (ug/kg)	Reference Limit
	Sample # S- 240315-155		(ug/kg)
PFOA	ND	ND = <1	
PFOS	ND	ND = <1	
PFHxS	ND	ND = <1	
C9 PFNA	ND	ND = <1	
C10 PFDA	ND	ND = <1	
C11 PFUnDA	ND	ND = <1	
C12 PFDoDA	ND	ND = <1	
C13 PFTrDA	ND	ND = <1	
C14 PFTDA	ND	ND = <2	
Sum C9-C14	<7		<25

Note: ND = Not Detected

Note: ug/kg = ppb

Note: ND = Not Detected

Note: mg/kg = ppm

If you have any questions regarding these results, please contact us.

Report Prepared By: Rebecca Bailey



Lisa Simko

Technical Specialist

Process Flow - Analytical Methods for Chemical Analysis

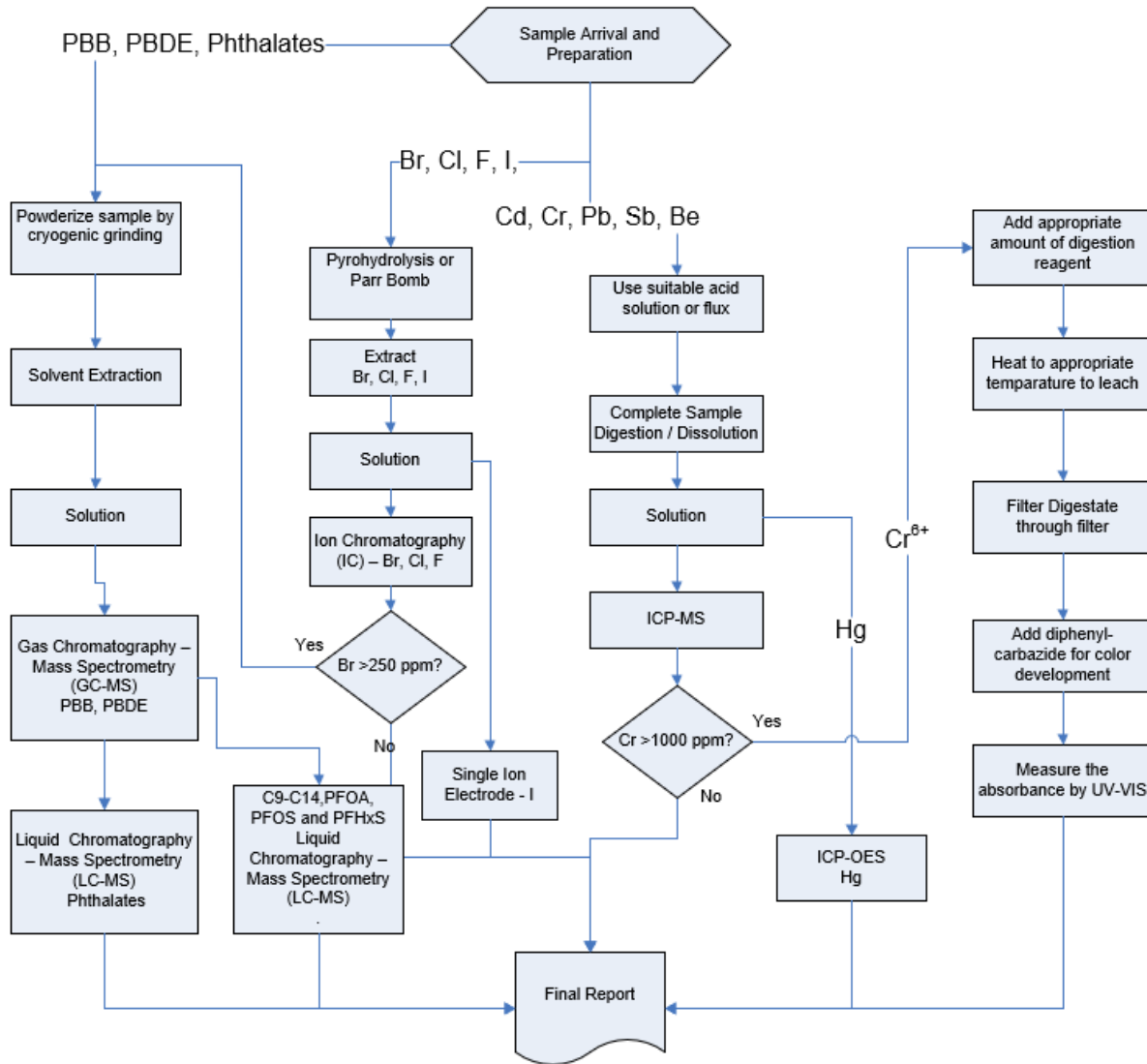


Photo: Sample # S-240315-155

