



# Analytical Testing Report

Indalloy 256 with NC-SMQ75 (Paste)

**Report Number: R-20250430-122A**

Prepared for:

*Cliff Talbot*

**Indium Corporation**  
1676 Lincoln Avenue  
Utica, NY 13503

P.O. #: NA

May 13, 2025

NSL Analytical Services, Inc.  
NSL Analytical  
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Cleveland, Ohio 44128  
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**Tests  
Requested:**

- European Directive 2011 / 65 / EU Annex II (RoHS; Recasting 2001 / 95 / EC: Cadmium, Lead, Mercury, Hexavalent Chromium, Polybromobiphenyl (PBB), and Polybromodiphenylether (PBDE) content.
- Antimony, Beryllium and Arsenic Content
- Total Halogen and Sulfur Content
- DIBP, DBP, BBP, DEHP, DnOP, DINP, DIDP
- PFOA, PFOS, PFHxS, C9-C14
- HBCDD contents
- Chlorinated Organic Compounds Content
- Organic Tin Compounds Content
- PVC Content



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## Project Definition and Scope

**European Directive 2011 / 65 / 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, Arsenic Content, Total Halogen and Sulfur content.

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

PFOA, PFOS, PFHxS, C9-C14 content.

HBCDD contents

Chlorinated Organic Compounds Content and Organictin Compounds Content

PVC Contents

Report Revised to correct reference to most current IEC methods.

## Sample Identification

The sample was received on April 30th, 2025 and is labeled as indicated below.

Sample Number	Client Label
S-250430-242	Indalloy 256 with NC-SMQ75 (Paste)

## 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, Beryllium and Arsenic analysis was conducted by Inductively Coupled Plasma - Mass Spectrometry (ICP-MS).

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

With reference to IEC 62321-8: 2017, DIBP, DBP, BBP, DEHP, DnOP, DINP, DIDP were analyzed by Gas Chromatography – Mass Spectrometry (GC-MS).

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

With reference to IEC 62321:2008: HBCDD was analyzed by Gas Chromatography – Mass Spectrometry (GC-MS).

With reference to US EPA 3540C, Chlorinated Organic was analyzed by GC/MS

With reference to ISO 17353, Organictin was analyzed by GC/FPD

Polyvinyl Chloride was analyzed by FTIR and FLAME Test

## Results, Opinions, and Interpretations

**Table 1: RoHS Results**

Test Item	Results (mg/kg) Sample#S-250430-242	Detection Limit (mg/kg)	Reference Limit (mg/kg)
Lead (Pb)	75	5	1000
Cadmium (Cd)	n.d.	5	100
Chromium (Cr)	n.d.	5	-
Hexavalent Chromium (Cr(VI))	n.d.	1	1000
Mercury (Hg)	n.d.	5	1000
Sum of PBBs	<300	300	1000
Monobromobiphenyl	n.d.	100	-
Dibromobiphenyl	n.d.	100	-
Tribromobiphenyl	n.d.	10	-
Tetrabromobiphenyl	n.d.	10	-
Pentabromobiphenyl	n.d.	10	-
Hexabromobiphenyl	n.d.	10	-
Heptabromobiphenyl	n.d.	10	-
Octabromobiphenyl	n.d.	10	-
Nonabromobiphenyl	n.d.	10	-
Decabromobiphenyl	n.d.	10	-
Sum of PBDEs	<300	300	1000
Monobromodiphenyl ether	n.d.	100	-
Dibromodiphenyl ether	n.d.	10	-
Tribromodiphenyl ether	n.d.	10	-
Tetrabromodiphenyl ether	n.d.	10	-
Pentabromodiphenyl ether	n.d.	10	-
Hexabromodiphenyl ether	n.d.	10	-
Heptabromodiphenyl ether	n.d.	10	-
Octabromodiphenyl ether	n.d.	10	-
Nonabromodiphenyl ether	n.d.	50	-
Decabromodiphenyl ether	n.d.	100	-

**Table 2: Antimony, Beryllium and Arsenic Content**

Test Item	Results (mg/kg) Sample#S-250430-242	Detection Limit (mg/kg)
Antimony (Sb)	33	5
Beryllium (Be)	n.d.	5
Arsenic (As)	n.d.	5

**Table 3: Halogen and Sulfur Content**

<u>Test Item</u>	Results (mg/kg) Sample#S-250430-242	Detection Limit (mg/kg)
Chlorine (Cl)	n.d.	10
Bromine (Br)	n.d.	10
Fluorine (F)	n.d.	10
Iodine (I)	n.d.	10
Sulfur (S)	n.d.	10

**Table 4: PFOA and PFOS Content**

<u>Test Item</u>	Results (ug/kg) Sample#S-250430-242	Detection Limit (mg/kg)	Reference Limit (ug/kg)
Perfluorooctanoic acid (PFOA)	n.d.	n.d.= <1	
Perfluorooctane sulfonate (PFOS)	n.d.	n.d.= <1	
Perfluorohexanesulfonic acid (PFHxS)	n.d.	n.d.= <1	
C9 PFNA	n.d.	n.d.= <1	
C10 PFDA	n.d.	n.d.= <1	
C11 PFUnDA	n.d.	n.d.= <1	
C12 PFDoDA	n.d.	n.d.= <1	
C13 PFTrDA	n.d.	n.d.= <1	
C14 PFTDA	n.d.	n.d.= <2	
Sum C9-C14	<7		<25

**Table 5: HBCDD Results**

<u>Test Item</u>	Results (ug/kg) Sample#S-250430-242	Detection Limit (mg/kg)
Hexabromocyclododecane (HBCDD)	n.d.	100

**Table 6: Phthalates Results**

<u>Test Item</u>	Results (mg/kg) Sample#S-250430-242	Detection Limit (ug/kg)	Reference Limit (mg/kg)
Di-isobutyl Phthalate (DIBP)	n.d.	20	-
Dibutyl Phthalate (DBP)	n.d.	20	1000
Butyl Benzyl Phthalate (BBP)	n.d.	20	1000
Di-(2-ethylhexyl) Phthalate (DEHP)	n.d.	20	1000
Di-n-octyl Phthalate (DnOP)	n.d.	20	1000
Di-iso-nonyl Phthalate (DINP)	n.d.	100	1000
Diisodecyl Phthalate (DIDP)	n.d.	100	1000
Di-n-hexyl Phthalate (DnHP)	n.d.	20	

**Table 7: Chlorinated Organic Compounds Results**

<u>Test Item</u>	Results (mg/kg) Sample#S-250430-242	Detection Limit (mg/kg)
Polychlorinated Biphenyls (PCBs)	n.d.	10
Polychlorinated Terphenyls (PCTs)	n.d.	10
Chlorinated Paraffins (C10~C13)	n.d.	10
Polychlorinated Naphthalene (PCN)	n.d.	10

**Table 8: Organic Tin Compounds Results**

<u>Test Item</u>	Results (mg/kg) Sample#S-250430-242	Detection Limit (mg/kg)
Tributyl Tin (TBT)	n.d.	10
Triphenyl Tin (TPT)	n.d.	10
Tributyl Tin Oxide (TBTO)	n.d.	10
Di-Butyl Tin (DBT)	n.d.	10
Di-Octyl Tin (DOT)	n.d.	10

**Table 9: Polyvinyl Chloride Results**

<u>Test Item</u>	Results (mg/kg) Sample#S-250430-242	Detection Limit (mg/kg)
Polyvinyl Chloride (PVC)	**	Negative

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

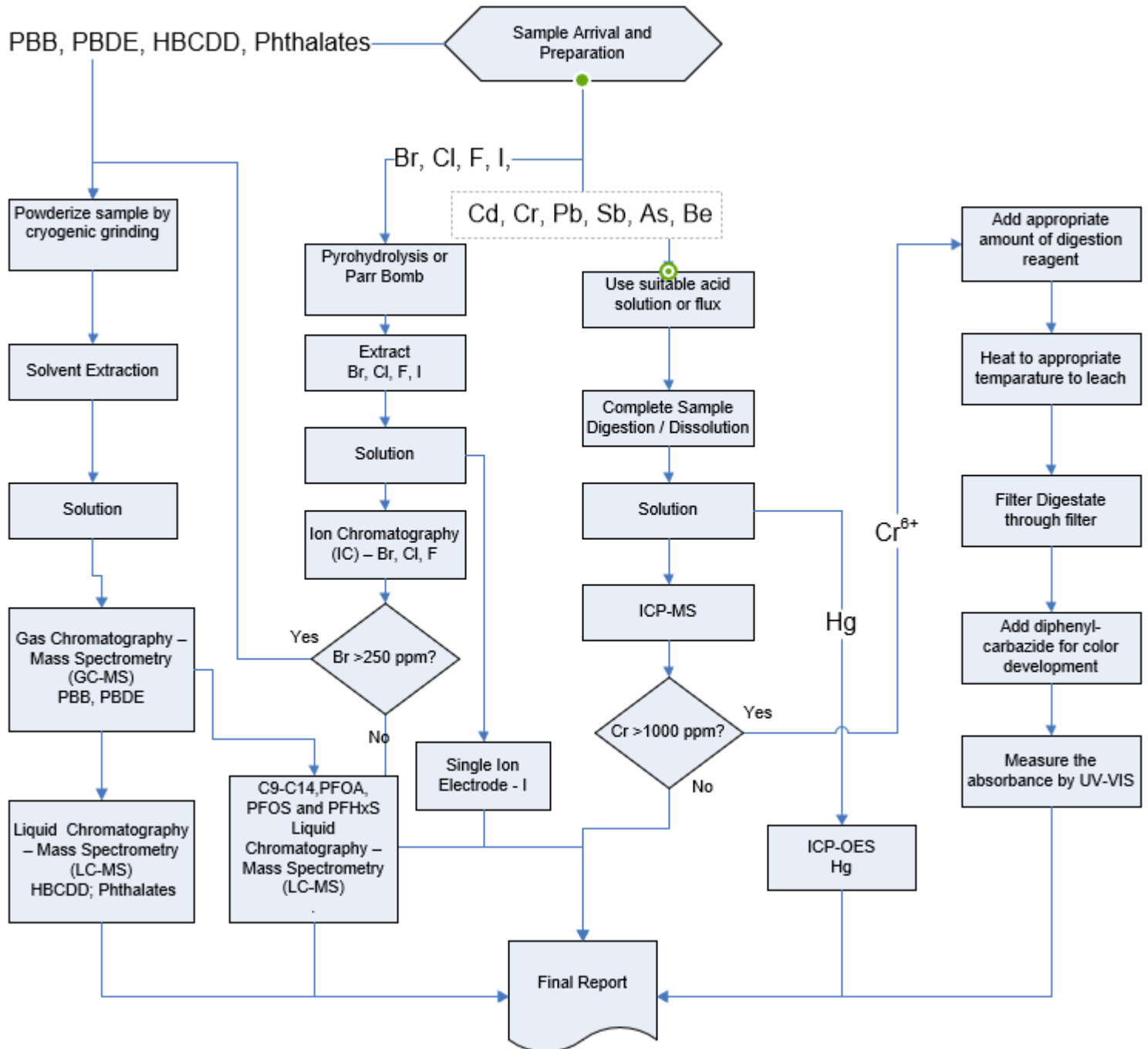
Report Prepared By: Rebecca Bailey



Lisa Simko

Technical Specialist

## Process Flow – Analytical Methods for Chemical Analysis





## Photo: Sample # S-250430-242

### Indium - SERVICE REQUEST FORM Restricted Substance Testing for E&E Products

Client Requesting NSL Service

Request Service: ☒ 5 days Rush Service: ☐ 2 days

Company Name: **INDIUM CORPORATION**

Invoice: Address: 1676 Lincoln Ave. Report: Address:  
P. O. Box 269  
Utica, New York 13502  
Contact Name: Clifford Talbot  
Telephone: 315-853-4900 ext.7415  
Email: ctalbot@indium.com

Address: ☒ Same as billing address  
Contact Name:  
Telephone:  
Email:  
☒ Ready for testing

#### Sample Information

Sample Description: **Indalloy 256 with NC-SMQ75** PO #: **EP26410**  
Color: **Contain Phthalates: No**  
Powder Composition: **Sn96.5/Ag3/Cu0.5** **Contain Bromine: No**  
Special Instructions: **Photo of material not the jar** **Location: ECD**

Re-test Sample: If yes, provide previous report number:

NSL Service(s) Required: Please check appropriate line(s) below:

(Analyze the submitted sample(s) per NSL Quote Number: **NSLQ33295: line 93, 122, 117**)

☒ RoHS: Full Package IEC 62321 ☒ Phthalates: DEHP, DBP, DINP, DIDP, DNOP, BBP, DIBP, DnHP  
☐ Cadmium (Cd) ☒ HBCDD  
☐ Lead (Pb) ☐ High Concentration ☒ C9-C14 PFAS  
☐ Low Concentration ☒ PFOS/PFOA  
☐ Mercury (Hg) ☒ PFHxS  
☐ PBBs and PBDEs Halogens:  
☐ Chromium VI (Cr VI) ☒ Chlorine (Cl) ☒ Bromine (Br)  
☒ Antimony ☒ Beryllium ☒ Arsenic ☒ Iodine (I) ☒ Fluorine (F)

☒ Other tests (please specify Analysis/Method): Line #117 PBDE and PBB by GCMS

☒ Photos Required ☒ Flow Chart ☒ Other Reporting Instruction: No result conclusion on report cover page

NSL Customer Service Representative: NSL Sales Contact:

NSL Analytical Services Inc. ☐ Return Sample Immediately; if returned please  
4450 Cranwood Parkway provide shipping account number.

Cleveland, OH 44128 ☒ Destroy/Discard Sample after 90 days

Phone: 1-216-438-5200

Fax: 1-216-438-5050

Client Confirmation: We confirm that the above information is complete and understand that the performances of the services described are governed by NSL General Conditions of Service.

Authorized Signature: *Clifford Talbot*

Date: 04/24/2025

APR 30 2025

CONTRACT REVIEW

50132270

By: DJ R-20250430-122

