CERTIFICATE OF ACCREDITATION

The ANSI National Accreditation Board

Hereby attests that

NSL Analytical Services, Inc.
4450 Cranwood Parkway
Cleveland, OH 44128

Fulfills the requirements of

ISO/IEC 17025:2017

and the

U.S. CPSC Children's Product Safety Testing Accreditation Program

In the field of

TESTING

This certificate is valid only when accompanied by a current scope of accreditation document.
The current scope of accreditation can be verified at www.anab.org.

Jason Stine, Vice President

Expiry Date: 23 November 2028

Certificate Number: AT-1354

This 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 dated April 2017).

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

NSL Analytical Services, Inc.
4450 Cranwood Parkway
Cleveland, OH 44128
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TESTING

ISO/IEC 17025 Accreditation Granted: **06 November 2026**

Certificate Number: **AT-1354** Certificate Expiry Date: **23 November 2028**

Chemical

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Elemental Analysis	ASTM E1479 ASTM E2371 ASTM E2594 ASTM E3061 ICP-003 ICP-004	All Metal Alloys, Ceramics, Chemicals, Plastics	ICP Avio 500 Optima 5300 Optima 7300
Elemental Analysis	ASTM E2823 MS-003 MS-006 MS-007	All Metal Alloys, Ceramics, Chemicals, Plastics	ICP-MS NexION 5000A NexION 2000B NexION 300/350X ELAN DRCe ELAN DRCeB
Elemental Analysis	ASTM E415 ASTM E1086 ASTM E2994 ASTM E3047 ALY-013	Al, Co, Fe, Ni, Ti Alloys	Spark OES SpectroLab M12
Elemental Analysis	ASTM E572 ASTM E1172 ASTM E2465 ALY-010 ALY-010M2	Co, Fe, Ni, Ti Alloys Ceramics	WD-XRF Axios mAX

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Elemental Analysis – Semi Quantitative Phase Analysis	ASTM D934 ALY-015	Inorganic chemicals, ceramics, metals and solids	XRD
C Analysis	ASTM E1019 ASTM E1941 ALY-011 ALY-019	Most Metal Alloys, Ceramics	Combustion LECO 844 LECO CS844-002
H Analysis	ASTM E1447 ALY-012 ALY-018	Metal Alloys, excluding Al, Mg	Inert Gas Fusion LECO H836 Leco ONH 836
N Analysis	ASTM E1019 ASTM E1409 ALY-002 ALY-014 ALY-018	All Metal Alloys, Oxides, Nitrides, Ceramics	Inert Gas Fusion LECO ON 836 Leco ONH 836
O Analysis	ASTM E1019 ASTM E1409 ALY-002 ALY-014 ALY-018	Most Metal Alloys (excluding Al), Oxides, Carbides, Nitrides, Ceramics	Inert Gas Fusion LECO ON 836 Leco ONH 836
S Analysis	ASTM E1019 ALY-011 ALY-019	Most Metal Alloys, Ceramics, Graphite	Combustion LECO 844 LECO CS844-002
Cl, F, Br, I, NO_2, NO_3, SO_4, PO_4	ASTM D4327 ASTM D7359 BS EN 14582:2016 AC-008 AC-019	Metal Alloys, Ceramics, Chemicals, Plastics	Ion Chromatography ICS 2100 ICS 5000 Integrion RFIC
Br, Cl, F, I, S^{2-}	ASTM C791 ASTM D512 ASTM D808 ASTM D1179 ASTM D7359 BS EN 14582:2016 AC-002	Metal Alloys, Ceramics, Chemicals, Plastics	Ion-Selective Electrode Orion EA 940

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Wet Colorimetric P Wet Colorimetric Cr+6	ISO 3613 AC-006M1 AC-012 WC-001M2	All Metal Alloys, Ceramics, Chemicals, Plastics	UV-Vis GENESYS 10S
Wet Gravimetric Ni, Si, P, Cu, Ag, Re, S	ASTM E350 (WC defined) WC-001M5 WC-001M7 WC-001M11 WC-001M18 WC-001M23 WC-001M26	Metal Alloys	Wet Chemistry
Titration Method for Cr Titration Method for B	WC-001M10 (ASTM E350, WC defined) WC-002 WC-001M1 (ASTM E371) WC-001M3 (ASTM C791 - WC defined); WC-002	Metal Alloys, Chemicals	Titration Metrohm 888 Titrando
Wet Chemical Determination of Free Carbon in B4C	AC-017	Powders	Wet Chemistry
Hg Analysis	ASTM D3223 AC-018	Metal Alloys, Ceramics, Chemicals, Plastics	Cold Vapor AA Leeman QuickTrace M-7600
Lead in Children's Products & Jewelry	CPSC-01 CPSC-CH-E1001-08.3[1] CPSC-CH-E1002-08.3[1] CPSC-CH-E1003-09.1[1] MS-007	Total Pb per 16CFR Part 1303: Lead Paint Regulation Lead in Non-Metal Children's Products Lead in Children's Metal Products Lead in Children's Metal Jewelry	ICP-MS NexION 5000A NexION 2000B NexION 300/350X ELAN DRCe ELAN DRCeB ICP-OES Avio 500 Optima 5300 Optima 7300

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Soluble Heavy Metals	CPSC-01 ASTM F 963(Section 4 & Section 8) ASTM F 963-23 4.3.5.1(2) [1] 4.3.5.2[1] EN 71-3 (section 4 through 10)	Children's Products Sample Preparation and Analysis Surface Coating Materials – Soluble Test For Metals Toy Substrate Materials	ICP-MS NexION 5000A NexION 2000B NexION 300/350X ELAN DRCe ELAN DRCeB ICP-OES Avio 500 Optima 5300 Optima 7300 Cold Vapor AA Leeman QuickTrace M-7600
Phthalates	CPSC-CH-C1001-09.3[1] CPSC-CH-C1001-09.4[1] (2018) ORG-004 ORG-007 ORG-016	Polymers, Children's Product Analysis & Other Organic/Inorganic Materials	GC GC-MS Clarus 680 SQ 8T GC-MS Clarus 600 GC LC-MS/MS
Alloy Identification and Qualitative RoHS Screening of Elements	IEC 62321-3-1 ALY-009	Metal Alloys, Ceramics, Plastics	Portable XRF XL3t gun
Quantitative RoHS screening for Halogens, Sulfur, Br	IEC 62321-3-2 ASTM D7359 BS EN 14582 :2016 AC-008 AC-001M2 AC-001M6 AC-019	Metal Alloys, Ceramics, Plastics	Ion Chromatography ICS 5000 ICS 2100 Integrion RFIC

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Mercury in polymers, metals and electronics by CV-AAS, ICP-OES	IEC 62321-4	RoHS Testing: Electronics and Consumer Products (All Metals, Alloys, Ceramics, Chemicals, Plastics, Polymers, Coatings)	ICP-OES Avio 500 Optima 7300 Optima 5300 Cold Vapor AA Leeman QuickTrace M-7600
Cd, Cr and Pb in Polymers Cd and Pb in Metals Cd, Cr and Pb in Electronics	IEC 62321-5 MS-007	RoHS Testing: Electronics and Consumer Products (All Metals, Alloys, Ceramics, Chemicals, Plastics, Polymers, Coatings)	ICP-OES Avio 500 Optima 7300 Optima 5300 ICP-MS NexION 5000A NexION 2000B NexION 300/350X ELAN DRCe ELAN DRCeB
PBB and PBDE in Polymers	IEC 62321-6 ORG-008 ORG-018	RoHS Testing: Electronics and Consumer Products (All Metals, Alloys, Ceramics, Chemicals, Plastics, Polymers, Coatings)	GC-MS Clarus 680 SQ 8T LC-MS
Colorimetric Cr+6 on Surface Coatings	IEC 62321-7-1 AC-012	RoHS Testing: Electronics and Consumer Products (All Metals, Alloys, Ceramics, Chemicals, Plastics, Polymers, Coatings)	UV-Vis Genesys 10S
Colorimetric Cr+6 on Polymers and Electronics	IEC 62321-7-2 AC-012	RoHS Testing: Electronics and Consumer Products (All Metals, Alloys, Ceramics, Chemicals, Plastics, Polymers, Coatings)	UV-Vis Genesys 10S

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Phthalates	IEC 62321-8 ORG-007 ORG-016	RoHS Testing: Electronics and Consumer Products (All Metals, Alloys, Ceramics, Chemicals, Plastics, Polymers, Coatings)	GC-MS Clarus 680 SQ 8T LC-MS/MS
Bisphenol-A (BPA)	ORG-015	Polymers, other Organic/ Inorganic Compounds	LC-MS/MS
Hexabromocyclododecane (HBCDD)	ORG-017	Polymers, other Organic/ Inorganic Compounds	LC-MS/MS
PFAS/PFCA (per- and polyfluoroalkyl & perfluorocarboxylic substances including PFOA/PFOS)	Commission Regulation (EU) 2021/1297 Annex XV11 to Regulation (EC) No 1907/2006 ORG-013 ORG-014	Solids & Liquids	LC-MS/MS
Qualitative Analysis, Polymer Identification	ORG-002	Polymers, other Organic Compounds	FTIR Spectrum 1 & 3
Formulation Identification and Volatile Matter	ASTM E1131 ASTM E1582 ASTM E1860 ASTM E1868 ASTM E2040 ORG-005 ORG-012	Polymers, other Organic Compounds	TGA TA Q500
Determination of Thermal Characteristics	ASTM E967 ASTM E968 ORG-006	Polymers, other Organic Compounds	DSC TA Q20
pH	ASTM D1293 AC-011 WC-005	Aqueous Solutions, Chemicals, Water	pH/Ion Meter
Conductivity & Resistivity	ASTM D1125 AC-010	Aqueous Solutions, Chemicals, Water	Conductivity Meter
% Ash & Moisture	ASTM C561 ASTM C562 PE-001M1	Carbon, Graphite	Muffle Furnace, Balance

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Bulk Density by Physical Measurements	ASTM C559 WC-001M34	Carbon, Graphite	Balance, Calipers
Density by Water Displacement	ASTM B311 ISO 3369 WC-001M28	Metals, Ceramics	Balance, Thermometer
Determination of Water by Karl Fischer	ASTM E203 ASTM E1064 ASTM D6304 AC-016	Organic and Inorganic Liquid and Solids	Metrohm Karl Fischer Titrator

Mechanical Testing (Powders)

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Particle Size Distribution by Laser Diffraction	ISO 13320 ASTM B821 ASTM B822 PS-01	Powders	Mastersizer 3000 Particle Size Analyzer
Sieve Analysis	ASTM B214 PC-004	Powders	Rotap Sieves
Flow Rate	ASTM B213 ASTM B964 PC-001	Metal Powders	Hall Flow Meter Carney Funnel
Material Flow Parameters	PC-009	Powders	Revolution Powder Rheometer
BET Surface Area By N2 or Kr Adsorption Nitrogen Porosimetry	ASTM B922 ASTM C1274 ISO 9277 ISO 15901-2 PC-006 PC-007 PC-014 PC-015	Powders, Particles	Quadrasorb evoKr/MP FloVac Degasser Micromeritics Tristar II

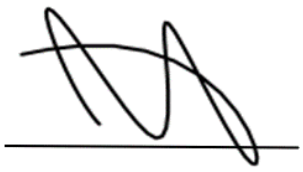
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Mechanical Testing (Powders)

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Apparent Density	ASTM B212 ASTM B417 PC-002 PC-003	Free Flowing Metal Powders Non- Free-Flowing Metal Powders	Hall Flowmeter Funnel Carney Funnel
Bulk Density	ASTM D7481 PC-012	Powders	Graduated Cylinder Auto-Tap
Tap Density	ASTM B527 PC-005	Metal Powders	Auto-Tap
Skeletal Volume & Density By Helium or Nitrogen Pycnometry	ASTM B923 ISO12154 MPIF 63 PC-008	Powders Components	Ultrapyc 1200e

Note:

1. Test meets the requirements of ANAB Supplemental Requirements SR 2425, Consumer Products Safety Commission (CPSC) Children's Product Safety Testing Accreditation Program. Scope listing is consistent with CPSC rule 16CFR1112.15 - eCFR :: 16 CFR Part 1112 -- Requirements Pertaining to Third Party Conformity Assessment Bodies



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