



Accredited Laboratory

A2LA has accredited

RTI LABORATORIES, INC.

Livonia, MI

for technical competence in the field of

Chemical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. 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).



Presented this 5th day of November 2024.

A blue ink signature of Mr. Trace McInturff, written in a cursive style.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 570.02
Valid to October 31, 2026

For the tests to which this accreditation applies, please refer to the laboratory's Chemical Scope of Accreditation.



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

RTI LABORATORIES, INC.
33080 Industrial Road
Livonia, MI 48150
Yemane Yohannes Phone: 734 422 8000

CHEMICAL

Valid To: October 31, 2026

Certificate Number: 0570.02

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory at the location listed above as well as the satellite laboratory location listed below to perform the following tests on fasteners, metals, and alloys:

<u>Test Parameter</u>	<u>Test Methods</u>
Cleanliness Level and Characterization by Microscopic Methods	ISO 4407, ISO 16232
Cleanliness Level by Gravimetric Analysis	ISO 4405, ISO 16232
Cleanliness Level of Fluids	ISO 4406 (size grading only), ISO 16232
Cleanliness Preparation and Expression	ISO 16232
FTIR	ASTM E334, E1252
ICP Metals Preparation	EPA SW846 3050
ICP-OES Al, Sb, As, Ba, Be, Bi, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, P, K, Se, Si, Ag, Na, Sr, Sn, Ti, V, and Zn	ASTM D5185, EPA SW 846 6010D
Loss on Drying by Thermogravimetry	ASTM E1868, SCAQMD Rule 1144
Measurement of Copper and other Elements in Brake Friction Materials (Preparation)	SAE J2975-2011, -2013
OES (Carbon Steel) C, Cu, Cr, Mn, Mo, Ni, P, S, W, Co, V, Al, and Si	ASTM E415, ISO-14707
Viscosity	ASTM D445
VOC Content	EPA Method 24, ASTM D2369
Water Content	ASTM D4017, D4377, D4928, E1064



Accredited Laboratory

A2LA has accredited

RTI LABORATORIES, INC.

Livonia, MI

for technical competence in the field of

Environmental Testing

In recognition of the successful completion of the A2LA evaluation process that includes an assessment of the laboratory's compliance with ISO/IEC 17025:2017, the requirements of the Department of Defense Environmental Laboratory Accreditation Program (DoD ELAP) as detailed in version 6.0 of the DoD Quality System Manual for Environmental Laboratories (QSM), and the A2LA R220 – *Specific Requirements – A2LA DoD Environmental Laboratory Accreditation Program*, accreditation is granted to this laboratory to perform recognized EPA methods as defined on the associated A2LA Environmental Scope of Accreditation. This accreditation demonstrates technical competence for this defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

Presented this 31st day of October 2024.

A blue ink signature of Mr. Trace McInturff, Vice President of Accreditation Services.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 0570.03
Valid to October 31, 2026



For the tests to which this accreditation applies, please refer to the laboratory's Environmental Scope of Accreditation.



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

RTI LABORATORIES, INC.
31628 Glendale
Livonia, Michigan 48150
Yemane Yohannes Phone: 734-422-8000 ext. 215

ENVIRONMENTAL

Valid To: October 31, 2026

Certificate Number: 0570.03

In recognition of the successful completion of the A2LA evaluation process, (including an assessment of the laboratory's compliance with ISO IEC 17025:2017 and the requirements of the DoD Environmental Laboratory Accreditation Program (DoD ELAP) as detailed in QSM version 6.0 of the DoD Quality Systems Manual for Environmental Laboratories), accreditation is granted to this laboratory to perform recognized EPA methods using the following testing technologies and in the analyte categories identified below:

Testing Technologies

ICP/MS, Gas Chromatography, Gas Chromatography/Mass Spectrometry, Gravimetry, High Performance Liquid Chromatography, LC/MS/MS, Ion Chromatography, Misc.- Electronic Probes (pH, O₂), Oxygen Demand, Hazardous Waste Characteristics Tests, Spectrophotometry (Visible), Spectrophotometry (Automated), Titrimetry, Total Organic Carbon, Turbidity

<u>Parameter/Analyte</u>	<u>Potable Water</u>	<u>Nonpotable Water</u>	<u>Solid Hazardous Waste</u>	
			<u>Aqueous</u>	<u>Solid/Chemical</u>
<u>Metals</u>				
Aluminum	-----	EPA 200.7/200.8	EPA 6020B/6010D	EPA 6020B/6010D
Antimony	EPA 200.8	EPA 200.7/200.8	EPA 6020B/6010D	EPA 6020B/6010D
Arsenic	EPA 200.8	EPA 200.7/200.8	EPA 6020B/6010D	EPA 6020B/6010D
Barium	EPA 200.8	EPA 200.7/200.8	EPA 6020B/6010D	EPA 6020B/6010D
Beryllium	-----	EPA 200.7/200.8	EPA 6020B/6010D	EPA 6020B/6010D
Boron	EPA 200.8	EPA 200.7/200.8	EPA 6020B/6010D	EPA 6020B/6010D
Cadmium	EPA 200.8	EPA 200.7/200.8	EPA 6020B/6010D	EPA 6020B/6010D
Calcium	-----	EPA 200.7	EPA 6010D	EPA 6020B/6010D
Chromium	EPA 200.8	EPA 200.7/200.8	EPA 6020B/6010D	EPA 6020B/6010D
Cobalt	-----	EPA 200.7	EPA 6010D	EPA 6020B/6010D
Copper	EPA 200.8	EPA 200.7/200.8	EPA 6020B/6010D	EPA 6020B/6010D
Iron	-----	EPA 200.7/200.8	EPA 6020B/6010D	EPA 6020B/6010D
Lead	EPA 200.8	EPA 200.7/200.8	EPA 6020B/6010D	EPA 6020B/6010D
Lithium	-----	EPA 200.7/200.8	EPA 6020B/6010D	EPA 6020B/6010D
Magnesium	-----	EPA 200.7/200.8	EPA 6020B/6010D	EPA 6020B/6010D
Manganese	EPA 200.8	EPA 200.7/200.8	EPA 6020B/6010D	EPA 6020B/6010D
Mercury	EPA 245.1	EPA 245.1	EPA 7470A	EPA 7471B
Molybdenum	EPA 200.8	EPA 200.7/200.8	EPA 6020B/6010D	EPA 6020B/6010D
Nickel	EPA 200.8	EPA 200.7/200.8	EPA 6020B/6010D	EPA 6020B/6010D
Potassium	-----	EPA 200.7/200.8	EPA 6020B/6010D	EPA 6020B/6010D

<u>Parameter/Analyte</u>	<u>Potable Water</u>	<u>Nonpotable Water</u>	<u>Solid Hazardous Waste</u>	
			<u>Aqueous</u>	<u>Solid/Chemical</u>
Selenium	EPA 200.8	EPA 200.7	EPA 6010D	EPA 6020B/6010D
Silicon	-----	EPA 200.7/200.8	EPA 6020B/6010D	EPA 6020B/6010D
Silver	-----	EPA 200.7/200.8	EPA 6020B/6010D	EPA 6020B/6010D
Strontium	EPA 200.8	EPA 200.7/200.8	EPA 6020B/6010D	EPA 6020B/6010D
Sodium	EPA 200.8	EPA 200.7/200.8	EPA 6020B/6010D	EPA 6020B/6010D
Thallium	EPA 200.8	EPA 200.7/200.8	EPA 6020B/6010D	EPA 6020B/6010D
Tin	-----	EPA 200.7/200.8	EPA 6020B/6010D	EPA 6020B/6010D
Titanium	-----	EPA 200.7/200.8	EPA 6020B/6010D	EPA 6020B/6010D
Uranium	EPA 200.8	EPA 200.8	EPA 6020B	EPA 6020B
Vanadium	-----	EPA 200.7	EPA 6010D	EPA 6020B/6010D
Zinc	EPA 200.8	EPA 200.7/200.8	EPA 6020B/6010D	EPA 6020B/6010D
<u>Nutrients</u>				
Ammonia (as N)	-----	SM 4500-NH ₃ D EPA 350.1 SM4500-NH ₃ H	SM 4500-NH ₃ C	SM 4500-NH ₃ C
Kjeldahl Nitrogen	-----	SM 4500-N _{org} B SM 4500-NH ₃ D EPA 351.2 SM 4500-N _{org} D	SM 4500-N _{org} B SM 4500-NH ₃ C	SM 4500-N _{org} B SM 4500-NH ₃ C
Nitrate (as N)	EPA 300.0	EPA 300.0 EPA 9056A	EPA 9056A	EPA 9056A
Nitrate-Nitrite (as N)	EPA 300.0	EPA 300.0 EPA 353.2 SM 4500-NO ₃ F EPA 9056A	EPA 9056A	EPA 9056A
Nitrite (as N)	EPA 300.0	EPA 300.0 EPA 353.2 (BP) SM 4500-NO ₃ F (BP) EPA 9056A	EPA 9056A	EPA 9056A
Orthophosphate (as P)	SM 4500-P E/F	SM 4500 PO ₄ F/E EPA 9056A	EPA 9056A	EPA 9056A
Total Phosphorus	-----	SM 4500-P F SM 4500-P H	-----	-----
<u>Demands</u>				
Biochemical Oxygen Demand	-----	SM 5210B	-----	-----
Carbonaceous BOD	-----	SM 5210B	-----	-----
Chemical Oxygen Demand	-----	EPA 410.4	-----	-----
Total Organic Carbon	-----	SM 5310B	EPA 9060	EPA 9060
<u>Wet Chemistry</u>				
Alkalinity (as CaCO ₃)	SM 2320B	SM 2320B	-----	-----
Bromide	EPA 300.0	EPA 300.0	EPA 300.0/9056A	EPA 9056A
Chloride	EPA 300.0	EPA 9056A	EPA 9056A	EPA 9056A
Cyanide	-----	SM 4500-CN E EPA 335.4	EPA 9012B	EPA 9012B
Available Cyanide	-----	ASTM 6888-04	-----	-----
Fluoride	EPA 300.0	EPA 300.0/9056A	EPA 9056A	EPA 9056A
Hardness	-----	SM 2340B/2340C	-----	-----

<u>Parameter/Analyte</u>	<u>Potable Water</u>	<u>Nonpotable Water</u>	<u>Solid Hazardous Waste</u>	
			<u>Aqueous</u>	<u>Solid/Chemical</u>
Hexavalent Chromium	-----	SM 3500 Cr-B	EPA 7196A	EPA 3060A EPA 7196A
pH	SM 4500-H ⁺ B	SM 4500-H ⁺ B	EPA 9040C	EPA 9045D
HEM (Oil and Grease)	-----	EPA 1664A	EPA 9071B/1664A	EPA 9071B
Phenols	-----	EPA 420.1/9065	EPA 9065	EPA 9065
Total Residue	-----	SM 2540B	-----	-----
Filterable Residue	-----	SM 2540C	-----	-----
Nonfilterable Residue	-----	SM 2540D	-----	-----
Specific Conductance (Conductivity)	EPA 120.1/ SM 2510B	EPA 120.1/ SM 2510B	EPA 9050A	EPA 9050A
Sulfate	EPA 300.0	EPA 300.0/9056A	EPA 9056A	EPA 9056A
Turbidity	-----	SM 2130B	-----	-----
<u>Purgeable Organics (Volatiles)</u>				
Acetone	-----	EPA 624.1	EPA 8260D	EPA 8260D
Acrolein	-----	EPA 624.1	EPA 8260D	EPA 8260D
Acrylonitrile	-----	EPA 624.1	EPA 8260D	EPA 8260D
tert-Amyl Ethyl Ether	-----	EPA 624.1	EPA 8260D	EPA 8260D
Benzene	-----	EPA 624.1	EPA 8260D	EPA 8260D
Bromobenzene	-----	EPA 624.1	EPA 8260D	EPA 8260D
Bromochloromethane	-----	EPA 624.1	EPA 8260D	-----
Bromodichloromethane	-----	EPA 624.1	EPA 8260D	EPA 8260D
4-Bromofluorobenzene	-----	EPA 624.1	EPA 8260D	EPA 8260D
Bromoform	-----	EPA 624.1	EPA 8260D	EPA 8260D
Bromomethane	-----	EPA 624.1	EPA 8260D	EPA 8260D
n-Butylbenzene	-----	EPA 624.1	EPA 8260D	EPA 8260D
sec-Butylbenzene	-----	EPA 624.1	EPA 8260D	EPA 8260D
tert-Butylbenzene	-----	EPA 624.1	EPA 8260D	EPA 8260D
tert-Butyl Ethyl Ether	-----	EPA 624.1	EPA 8260D	EPA 8260D
Carbon Disulfide	-----	EPA 624.1	EPA 8260D	EPA 8260D
Carbon Tetrachloride	-----	EPA 624.1	EPA 8260D	EPA 8260D
Chlorobenzene	-----	EPA 624.1	EPA 8260D	EPA 8260D
Chlorobenzene-d5	-----	EPA 624.1	EPA 8260D	EPA 8260D
Chloroethane	-----	EPA 624.1	EPA 8260D	EPA 8260D
2-Chloroethyl Vinyl Ether	-----	EPA 624.1	EPA 8260D	EPA 8260D
Chloroform	-----	EPA 624.1	EPA 8260D	EPA 8260D
Chloromethane	-----	EPA 624.1	EPA 8260D	EPA 8260D
2-Chlorotoluene	-----	EPA 624.1	EPA 8260D	EPA 8260D
4-Chlorotoluene	-----	EPA 624.1	EPA 8260D	EPA 8260D
Cyclohexane	-----	EPA 624.1	EPA 8260D	EPA 8260D
Dibromochloromethane	-----	EPA 624.1	EPA 8260D	EPA 8260D
1,2-Dibromo-3-Chloropropane (DBCP)	-----	EPA 624.1	EPA 8260D	EPA 8260D
Dibromofluoromethane	-----	EPA 624.1	EPA 8260D	EPA 8260D
Dibromomethane	-----	EPA 624.1	EPA 8260D	EPA 8260D
1,2 Dibromomethane (EDB)	-----	EPA 624.1	EPA 8260D	EPA 8260D
trans-1,4-Dichloro-2-Butene	-----	EPA 624.1	EPA 8260D	EPA 8260D
trans-1,4-Dichloroethene	-----	EPA 624.1	EPA 8260D	EPA 8260D
1,2-Dichlorobenzene	-----	EPA 624.1	EPA 8260D	EPA 8260D

<u>Parameter/Analyte</u>	<u>Potable Water</u>	<u>Nonpotable Water</u>	<u>Solid Hazardous Waste</u>	
			<u>Aqueous</u>	<u>Solid/Chemical</u>
1,3-Dichlorobenzene	-----	EPA 624.1	EPA 8260D	EPA 8260D
1,4-Dichlorobenzene	-----	EPA 624.1	EPA 8260D	EPA 8260D
Dichlorodifluoromethane	-----	EPA 624.1	EPA 8260D	EPA 8260D
1,1-Dichloroethane	-----	EPA 624.1	EPA 8260D	EPA 8260D
1,2-Dichloroethane	-----	EPA 624.1	EPA 8260D	EPA 8260D
1,1-Dichloroethene	-----	EPA 624.1	EPA 8260D	EPA 8260D
cis-1,2-Dichloroethene	-----	EPA 624.1	EPA 8260D	EPA 8260D
trans-1,2-Dichloroethene	-----	EPA 624.1	EPA 8260D	EPA 8260D
1,2-Dichloropropane	-----	EPA 624.1	EPA 8260D	EPA 8260D
1,3-Dichloropropane	-----	EPA 624.1	EPA 8260D	EPA 8260D
2,2-Dichloropropane	-----	EPA 624.1	EPA 8260D	EPA 8260D
1,1-Dichloropropene	-----	EPA 624.1	EPA 8260D	EPA 8260D
cis-1,3-Dichloropropene	-----	EPA 624.1	EPA 8260D	EPA 8260D
trans-1,3-Dichloropropene	-----	EPA 624.1	EPA 8260D	EPA 8260D
Diethyl Ether	-----	EPA 624.1	EPA 8260D	EPA 8260D
1,4-Difluorobenzene	-----	EPA 624.1	EPA 8260D	EPA 8260D
Ethyl Benzene	-----	EPA 624.1	EPA 8260D	EPA 8260D
Ethyl Methacrylate	-----	EPA 624.1	EPA 8260D	EPA 8260D
Gas Range Organics (GRO)	-----	EPA 8015D	EPA 8015D	EPA 8015D
2-Hexanone	-----	EPA 624.1	EPA 8260D	EPA 8260D
Hexachlorobutadiene	-----	EPA 624.1	EPA 8260D	EPA 8260D
Hexachloroethane	-----	EPA 624.1	EPA 8260D	EPA 8260D
Isopropylbenzene	-----	EPA 624.1	EPA 8260D	EPA 8260D
4-Isopropyltoluene	-----	EPA 624.1	EPA 8260D	EPA 8260D
Iodomethane	-----	EPA 624.1	EPA 8260D	EPA 8260D
Isopropyl Ether	-----	EPA 624.1	EPA 8260D	EPA 8260D
Methyl Acetate	-----	EPA 624.1	EPA 8260D	EPA 8260D
Methylcyclohexane	-----	EPA 624.1	EPA 8260D	EPA 8260D
Methylene Chloride	-----	EPA 624.1	EPA 8260D	EPA 8260D
Methyl Ethyl Ketone (MEK)	-----	EPA 624.1	EPA 8260D	EPA 8260D
2-Methylnaphthalene	-----	EPA 624.1	EPA 8260D	EPA 8260D
4-Methyl-2-Pentanone	-----	EPA 624.1	EPA 8260D	EPA 8260D
2-Methyl-2-Propanol (MIBK)	-----	EPA 624.1	EPA 8260D	EPA 8260D
Methyl Tert Butyl Ether (MTBE)	-----	EPA 624.1	EPA 8260D	EPA 8260D
Naphthalene	-----	EPA 624.1	EPA 8260D	EPA 8260D
Pentafluorobenzene	-----	EPA 624.1	EPA 8260D	EPA 8260D
n-Propylbenzene	-----	EPA 624.1	EPA 8260D	EPA 8260D
Styrene	-----	EPA 624.1	EPA 8260D	EPA 8260D
1,1,1,2-Tetrachloroethane	-----	EPA 624.1	EPA 8260D	EPA 8260D
1,1,2,2-Tetrachloroethane	-----	EPA 624.1	EPA 8260D	EPA 8260D
Tetrachloroethene	-----	EPA 624.1	EPA 8260D	-----
Tetrahydrofuran	-----	EPA 624.1	EPA 8260D	EPA 8260D
Toluene	-----	EPA 624.1	EPA 8260D	EPA 8260D
Total Petroleum Hydrocarbons (TPH)	-----	EPA 1664A	EPA 1664A	EPA 9071A
1,1,2-Trichloro-1,2,2-Trifluoroethane	-----	EPA 624.1	EPA 8260D	EPA 8260D
1,1,1-Trichloroethane	-----	EPA 624.1	EPA 8260D	EPA 8260D

Parameter/Analyte	Potable Water	Nonpotable Water	Solid Hazardous Waste	
			Aqueous	Solid/Chemical
1,1,2-Trichloroethane	-----	EPA 624.1	EPA 8260D	EPA 8260D
Trichloroethene	-----	EPA 624.1	EPA 8260D	EPA 8260D
Trichlorofluoromethane	-----	EPA 624.1	EPA 8260D	EPA 8260D
1,2,3-Trichlorobenzene	-----	EPA 624.1	EPA 8260D	EPA 8260D
1,2,4-Trichlorobenzene	-----	EPA 624.1	EPA 8260D	EPA 8260D
1,2,3-Trichloropropane	-----	EPA 624.1	EPA 8260D	EPA 8260D
1,2,3-Trimethylbenzene	-----	EPA 624.1	EPA 8260D	EPA 8260D
1,2,4-Trimethylbenzene	-----	EPA 624.1	EPA 8260D	EPA 8260D
1,3,5-Trimethylbenzene	-----	EPA 624.1	EPA 8260D	EPA 8260D
Trihalomethanes	-----	EPA 624.1	EPA 8260D	EPA 8260D
Vinyl Acetate	-----	-----	-----	EPA 8260D
Vinyl Chloride	-----	EPA 624.1	EPA 8260D	EPA 8260D
Xylenes, Total	-----	EPA 624.1	EPA 8260D	EPA 8260D
m,p-Xylene	-----	EPA 624.1	EPA 8260D	EPA 8260D
o-Xylene	-----	EPA 624.1	EPA 8260D	EPA 8260D
Extractable Organics (Semivolatiles)				
Acenaphthene	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Acenaphthylene	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Acetophenone	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Aniline	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Anthracene	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Atrazine	-----	-----	EPA 8270D/8270E	EPA 8270D/8270E
Benzaldehyde	-----	-----	EPA 8270D/8270E	EPA 8270D/8270E
Benzidine	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Benzoic Acid	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Benzo (a) Anthracene	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Benzo (b) Fluoranthene	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Benzo (k) Fluoranthene	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Benzo (ghi) Perylene	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Benzo (a) Pyrene	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Benzyl Alcohol	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
1,1-Biphenyl	-----	-----	EPA 8270D/8270E	EPA 8270D/8270E
Bis (2-chloroethoxy) Methane	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Bis (2-chloroethyl) Ether	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Bis (2-chloroisopropyl) Ether	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Bis (2-ethylhexyl) Phthalate	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
4-Bromophenyl Phenyl Ether	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Butyl Benzyl Phthalate	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Caprolactum	-----	-----	EPA 8270D/8270E	EPA 8270D/8270E
4-Chloroaniline	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
4-Chloro-3-Methylphenol	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
2-Chloronaphthalene	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
2-Chlorophenol	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
4-Chlorophenyl Phenyl Ether	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Chrysene	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Cresols	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Dibenzo (a,h) Anthracene	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Dibenzofuran	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E

<u>Parameter/Analyte</u>	<u>Potable Water</u>	<u>Nonpotable Water</u>	<u>Solid Hazardous Waste</u>	
			<u>Aqueous</u>	<u>Solid/Chemical</u>
1,2-Dichlorobenzene	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
1,3-Dichlorobenzene	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
1,4-Dichlorobenzene	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
3,3'-Dichlorobenzidine	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
2,4-Dichlorophenol	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
2,6-Dichlorophenol	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Diethyl Phthalate	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
2,4-Dimethylphenol	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Dimethyl Phthalate	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Di-n-butyl Phthalate	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Di-n-octyl Phthalate	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
2,4-Dinitrophenol	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
2,4-Dinitrotoluene	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
2,6-Dinitrotoluene	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
1,4-Dioxane	-----	-----	EPA 8270D/8270E	EPA 8270D/8270E
DRO	-----	EPA 8015D	EPA 8015D	EPA 8015D
Fluoranthene	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Fluorene	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Hexachlorobenzene	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Hexachlorobutadiene	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Hexachlorocyclopentadiene	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Hexachloroethane	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Indeno (1,2,3-cd) Pyrene	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Isophorone	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
2-Methyl-4,6-Dinitrophenol	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
2-Methylnaphthalene	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
2-Methylphenol	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
4-Methylphenol	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Naphthalene	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
2-Nitroaniline	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
3-Nitroaniline	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
4-Nitroaniline	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Nitrobenzene	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
2-Nitrophenol	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
4-Nitrophenol	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
N-Nitrosodi-n-propylamine	-----	EPA 625.1	EPA 8270D/8270E	-----
N-Nitrosodiphenylamine	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
2, 2-oxybis(1-chloropropane)	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Pentachlorobenzene	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Pentachloronitobenzene	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Pentachlorophenol	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Phenanthrene	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Phenol	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Polynuclear Aromatic Hydrocarbons (PAHs)	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Pyrene	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
Tetrachlorobenzenes	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
1,2,4,5-Tetrachlorobenzene	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E

<u>Parameter/Analyte</u>	<u>Potable Water</u>	<u>Nonpotable Water</u>	<u>Solid Hazardous Waste</u>	
			<u>Aqueous</u>	<u>Solid/Chemical</u>
2,3,4,5-Tetrachlorophenol	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
2,4,6-Tribromophenol	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
1,2,4-Trichlorobenzene	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
2,4,5-Trichlorophenol	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
2,4,6-Trichlorophenol	-----	EPA 625.1	EPA 8270D/8270E	EPA 8270D/8270E
<u>Pesticides/Herbicides/PCBs</u>				
Aldrin	-----	EPA 608.3/8081B	EPA 8081B	EPA 8081B
alpha-BHC	-----	EPA 608.3/8081B	EPA 8081B	EPA 8081B
beta-BHC	-----	EPA 608.3/8081B	EPA 8081B	EPA 8081B
delta-BHC	-----	EPA 608.3/8081B	EPA 8081B	EPA 8081B
gamma-BHC	-----	EPA 608.3/8081B	EPA 8081B	EPA 8081B
Chlordane (technical)	-----	EPA 608.3/8081B	EPA 8081B	EPA 8081B
4,4'-DDD	-----	EPA 608.3/8081B	EPA 8081B	EPA 8081B
4,4'-DDE	-----	EPA 608.3/8081B	EPA 8081B	EPA 8081B
4,4',-DDT	-----	EPA 608.3/8081B	EPA 8081B	EPA 8081B
Dieldrin	-----	EPA 608.3/8081B	EPA 8081B	EPA 8081B
Endosulfan I	-----	EPA 608.3/8081B	EPA 8081B	EPA 8081B
Endosulfan II	-----	EPA 608.3/8081B	EPA 8081B	EPA 8081B
Endosulfan Sulfate	-----	EPA 608.3/8081B	EPA 8081B	EPA 8081B
Endrin	-----	EPA 608.3/8081B	EPA 8081B	EPA 8081B
Endrin Aldehyde	-----	EPA 608.3/8081B	EPA 8081B	EPA 8081B
Endrin Ketone	-----	EPA 608.3/8081B	EPA 8081B	EPA 8081B
Heptachlor	-----	EPA 608.3/8081B	EPA 8081B	EPA 8081B
Heptachlor Epoxide	-----	EPA 608.3/8081B	EPA 8081B	EPA 8081B
Methoxychlor	-----	EPA 608.3/8081B	EPA 8081B	EPA 8081B
PCB-1016 (Aroclor)	-----	EPA 608.3/8082A	EPA 8082A	EPA 8082A
PCB-1221	-----	EPA 608.3/8082A	EPA 8082A	EPA 8082A
PCB-1232	-----	EPA 608.3/8082A	EPA 8082A	EPA 8082A
PCB-1242	-----	EPA 608.3/8082A	EPA 8082A	EPA 8082A
PCB-1248	-----	EPA 608.3/8082A	EPA 8082A	EPA 8082A
PCB-1254	-----	EPA 608.3/8082A	EPA 8082A	EPA 8082A
PCB-1260	-----	EPA 608.3/8082A	EPA 8082A	EPA 8082A
PCB-1262	-----	EPA 608.3/8082A	EPA 8082A	EPA 8082A
PCB-1268	-----	EPA 608.3/8082A	EPA 8082A	EPA 8082A
Toxaphene	-----	EPA 608.3/8081B	EPA 8081B	EPA 8081B
Hydrometer	-----	-----	-----	ASTM D422
Particle Size	-----	-----	-----	ASTM D693
White Phosphorus	-----	-----	EPA 7580	EPA 7580
<u>Characteristics</u>				
Corrosivity	-----	-----	EPA 9040C	EPA SW 846 Chapter 7 EPA 9040C EPA 9045C
Ignitability	-----	-----	EPA 1010/1030	EPA 1010/1030
Paint Filter Liquids Test	-----	-----	EPA 9095A	EPA 9095A
Synthetic Precipitation Leaching Procedure (SPLP)	-----	-----	EPA 1312	EPA 1312

Parameter/Analyte	Potable Water	Nonpotable Water	Solid Hazardous Waste	
			Aqueous	Solid/Chemical
Per- and Polyfluoroalkyl Substances				
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonate (11Cl-PF3OUdS) CASRN: 763051-92-9	-----	EPA 1633	EPA 1633	EPA 1633
1H,1H,2H,2H-Perfluorodecanesulfonate (8:2-FTS) CASRN: 39108-34-4	-----	EPA 1633	EPA 1633	EPA 1633
1H,1H,2H,2H-Perfluorohexanesulfonate (4:2-FTS) CASRN: 757124-72-4	-----	EPA 1633	EPA 1633	EPA 1633
1H,1H,2H,2H-Perfluorooctanesulfonate (6:2 FTS) CASRN: 27619-97-2	-----	EPA 1633	EPA 1633	EPA 1633
2H,2H,3H,3H-Perfluorooctanoic acid (5:3-FTCA) CASRN: 914637-49-3	-----	EPA 1633	EPA 1633	EPA 1633
3-Perfluoroheptyl propanoic acid (7:3-FTCA) CASRN: 812-70-4	-----	EPA 1633	EPA 1633	EPA 1633
3-Perfluoropropyl propanoic acid (3:3-FTCA) CASRN: 356-02-05	-----	EPA 1633	EPA 1633	EPA 1633
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonate (9Cl-PF3ONS) CASRN: 756426-58-1	-----	EPA 1633	EPA 1633	EPA 1633
4,8-Dioxa-3H-perfluorononanoic acid (ADONA) CASRN: 919005-14-4	-----	EPA 1633	EPA 1633	EPA 1633
HFPO-DA (GEN X) Hexafluoropropylene oxide dimer acid CASRN: 13252-13-6	-----	EPA 1633	EPA 1633	EPA 1633
N-ethyl perfluorooctanesulfonamide (NEtFOSA)	-----	EPA 1633	EPA 1633	EPA 1633

<u>Parameter/Analyte</u>	<u>Potable Water</u>	<u>Nonpotable Water</u>	<u>Solid Hazardous Waste</u>	
			<u>Aqueous</u>	<u>Solid/Chemical</u>
CASRN: 4151-50-2				
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA) CASRN: 2991-50-6	-----	EPA 1633	EPA 1633	EPA 1633
N-ethyl perfluorooctanesulfonamidoethanol (NEtFOSE) CASRN: 1691-99-2	-----	EPA 1633	EPA 1633	EPA 1633
N-methyl perfluorooctanesulfonamide (NMeFOSA) CASRN: 31506-32-8	-----	EPA 1633	EPA 1633	EPA 1633
N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA) CASRN: 2355-31-9	-----	EPA 1633	EPA 1633	EPA 1633
N-methyl perfluorooctanesulfonamidoethanol (NMeFOSE) CASRN: 24448-09-7	-----	EPA 1633	EPA 1633	EPA 1633
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) CASRN: 151772-58-6	-----	EPA 1633	EPA 1633	EPA 1633
Perfluoro(2-ethoxyethane) sulfonic acid (PFEESA) CASRN: 113507-82-7	-----	EPA 1633	EPA 1633	EPA 1633
Perfluoro-3-methoxypropanoic acid (PFMPA) CASRN: 377-73-1	-----	EPA 1633	EPA 1633	EPA 1633
Perfluoro-4-methoxybutanoic acid (PFMBA) CASRN: 863090-89-5	-----	EPA 1633	EPA 1633	EPA 1633
Perfluorobutanesulfonic acid (PFBS)	-----	EPA 1633	EPA 1633	EPA 1633

<u>Parameter/Analyte</u>	<u>Potable Water</u>	<u>Nonpotable Water</u>	<u>Solid Hazardous Waste</u>	
			<u>Aqueous</u>	<u>Solid/Chemical</u>
CASRN: 375-73-5				
Perfluorobutanoic acid (PFBA)	-----	EPA 1633	EPA 1633	EPA 1633
CASRN: 375-22-4				
Perfluorodecanesulfonate (PFDS)	-----	EPA 1633	EPA 1633	EPA 1633
CASRN: 335-77-3				
Perfluorodecanoic acid (PFDA)	-----	EPA 1633	EPA 1633	EPA 1633
CASRN: 335-76-2				
Perfluorododecanesulfonate (PFDoS)	-----	EPA 1633	EPA 1633	EPA 1633
CASRN: 79780-39-5				
Perfluorododecanoic acid (PFDoA)	-----	EPA 1633	EPA 1633	EPA 1633
CASRN: 307-55-1				
Perfluoroheptanesulfonate (PFHpS)	-----	EPA 1633	EPA 1633	EPA 1633
CASRN: 375-92-8				
Perfluoroheptanoic acid (PFHpA)	-----	EPA 1633	EPA 1633	EPA 1633
CASRN: 375-85-9				
Perfluorohexanesulfonic acid (PFHxS)	-----	EPA 1633	EPA 1633	EPA 1633
CASRN: 355-46-4				
Perfluorohexanoic acid (PFHxA)	-----	EPA 1633	EPA 1633	EPA 1633
CASRN: 307-24-4				
Perfluorononanesulfonate (PFNS)	-----	EPA 1633	EPA 1633	EPA 1633
CASRN: 68259-12-1				
Perfluorononanoic acid (PFNA)	-----	EPA 1633	EPA 1633	EPA 1633
CASRN: 375-95-1				
Perfluorooctanesulfonic acid (PFOS)	-----	EPA 1633	EPA 1633	EPA 1633
CASRN: 1763-23-1				
Perfluorooctanoic acid (PFOA)	-----	EPA 1633	EPA 1633	EPA 1633
CASRN: 335-67-1				
Perfluorooctansulfonamide (PFOSA)	-----	EPA 1633	EPA 1633	EPA 1633
CASRN: 754-91-6				

<u>Parameter/Analyte</u>	<u>Potable Water</u>	<u>Nonpotable Water</u>	<u>Solid Hazardous Waste</u>	
			<u>Aqueous</u>	<u>Solid/Chemical</u>
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA) CASRN: 151772-58-6	-----	EPA 1633	EPA 1633	EPA 1633
Perfluoro(2-ethoxyethane) sulfonic acid (PFEESA) CASRN: 113507-82-7	-----	EPA 1633	EPA 1633	EPA 1633
Perfluoro-3-methoxypropanoic acid (PFMPA) CASRN: 377-73-1	-----	EPA 1633	EPA 1633	EPA 1633
Perfluoro-4-methoxybutanoic acid (PFMBA) CASRN: 863090-89-5	-----	EPA 1633	EPA 1633	EPA 1633
Perfluorobutanesulfonic acid (PFBS) CASRN: 375-73-5	-----	EPA 1633	EPA 1633	EPA 1633
Perfluorobutanoic acid (PFBA) CASRN: 375-22-4	-----	EPA 1633	EPA 1633	EPA 1633
Perfluorodecanesulfonate (PFDS) CASRN: 335-77-3	-----	EPA 1633	EPA 1633	EPA 1633
Perfluorodecanoic acid (PFDA) CASRN: 335-76-2	-----	EPA 1633	EPA 1633	EPA 1633
Perfluorododecanesulfonate (PFDoS) CASRN: 79780-39-5	-----	EPA 1633	EPA 1633	EPA 1633
Perfluorododecanoic acid (PFDoS) CASRN: 307-55-1	-----	EPA 1633	EPA 1633	EPA 1633
Perfluoroheptanesulfonate (PFHpS) CASRN: 375-92-8	-----	EPA 1633	EPA 1633	EPA 1633
Perfluoroheptanoic acid (PFHpA) CASRN: 375-85-9	-----	EPA 1633	EPA 1633	EPA 1633
Perfluorohexanesulfonic acid (PFHxS)	-----	EPA 1633	EPA 1633	EPA 1633

<u>Parameter/Analyte</u>	<u>Potable Water</u>	<u>Nonpotable Water</u>	<u>Solid Hazardous Waste</u>	
			<u>Aqueous</u>	<u>Solid/Chemical</u>
CASRN: 355-46-4				
Perfluorohexanoic acid (PFHxA)	-----	EPA 1633	EPA 1633	EPA 1633
CASRN: 307-24-4				
Perfluorononanesulfonate (PFNS)	-----	EPA 1633	EPA 1633	EPA 1633
CASRN: 68259-12-1				
Perfluorononanoic acid (PFNA)	-----	EPA 1633	EPA 1633	EPA 1633
CASRN: 375-95-1				
Perfluorooctanesulfonic acid (PFOS)	-----	EPA 1633	EPA 1633	EPA 1633
CASRN: 1763-23-1				
Perfluorooctanoic acid (PFOA)	-----	EPA 1633	EPA 1633	EPA 1633
CASRN: 335-67-1				
Perfluorooctansulfonamide (PFOSA)	-----	EPA 1633	EPA 1633	EPA 1633
CASRN: 754-91-6				
Perfluoropentanesulfonate (PFPeS)	-----	EPA 1633	EPA 1633	EPA 1633
CASRN: 2706-91-4				
Perfluoropentanoic acid (PFPeA)	-----	EPA 1633	EPA 1633	EPA 1633
CASRN: 2706-90-3				
Perfluorotetradecanoic acid (PFTeDA)	-----	EPA 1633	EPA 1633	EPA 1633
CASRN: 376-06-7				
Perfluorotridecanoic acid (PFTrDA)	-----	EPA 1633	EPA 1633	EPA 1633
CASRN: 72629-94-8				
Perfluoroundecanoic acid (PFUnA)	-----	EPA 1633	EPA 1633	EPA 1633
CASRN: 2058-94-8				
<u>Preparation Methods</u>				
Metals	-----	-----	EPA 3010A/3020A	EPA 3050B
Purgeable Organics	-----	-----	EPA 5030B	EPA 5035
Waste Dilution Procedure			EPA 3580	EPA 3580
Extractable Organics	-----	-----	EPA 3510C	EPA 3546/3550C
“General”/Anions	-----	-----	EPA 5050	EPA 5050



Accredited Laboratory

A2LA has accredited

RTI LABORATORIES, INC.

Livonia, MI

for technical competence in the field of

Mechanical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. 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).



Presented this 5th day of November 2024.

A blue ink signature of Mr. Trace McInturff.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 570.01
Valid to October 31, 2026

For the tests to which this accreditation applies, please refer to the laboratory's Mechanical Scope of Accreditation.



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

RTI LABORATORIES, INC.
33080 Industrial Road
Livonia, MI 48150
Yemane Yohannes Phone: 734 422 8000

MECHANICAL

Valid To: October 31, 2026

Certificate Number: 0570.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on fasteners, metals, and alloys:

Test Parameter	Test Methods
Brinell Hardness (500, 1000, 3000 kg; 10 mm indenter)	ASTM E10
Coating Thickness	ASTM B487
Coating Weight	ASTM A90-/A90M, A428-/A428M
Electron Microscopy (SEM/EDS)	ASTM B748, E986
Environmental Testing: Salt Spray	ASTM B117
Impact Testing (Charpy) Up to 300 ft. lbs	ASTM E23
MacroVickers 10 kgf	ASTM E92
Metallographic Analysis Case Depth Cast Iron Rating Depth of Decarburization Grain Size Inclusion Content Macroetching Microetch	SAE J423 ASTM A247; SAE J158, J434 ASTM E1077; SAE J419 ASTM E112 (Comparison Only) ASTM E45 (Method A, C, & D) ASTM A561, A604, E340, E381 ASTM E407
Metallographic Preparation	ASTM E3
Metallurgical Failure Analysis	ASTM E2332 (Withdrawn 2013) Using the methods listed above and on the Scope of Accreditation 0570.02 in accordance with the ASM Handbook Vol. 11
Microhardness HK 50, 100, 200, 300, and 500 gf. HV 50, 100, 200, 300, and 500 gf.	ASTM E384
Plastic Strain Ratio (R-value)	ASTM E8/E8M, E517
Plating Adherence	ASTM B571 (Except Draw) Method 8, D3359 Method A
Rockwell Hardness (B, C, (15, 30) N, (15, 30) T)	ASTM E18, F606-/F606M
Tension and Proof Load (0-60,000 lbs. at Room Temperature)	ASTM A370, E8/E8M; SAE J995; JIS Z2201, Z2241
Work Hardening Exponent (N-value)	ASTM E646