

# EDWARD R. EATON, iv

Phone: (602) 758-7048  
Ed@ EREaton.com

5334 North 186<sup>th</sup> Drive  
Litchfield Park, AZ 85340

Edward R. Eaton (“Ed”) is an experienced professional in the development and testing of automotive fluids. This is a comprehensive CV.

## PROFESSIONAL EXPERIENCE

---

2017-2018 **Laboratory Holdings, LLC** Litchfield Park, AZ

*Owner, Independent Consultant*

Provide technical assistance to industry research and development projects, problem investigation and product quality control procedures.

2000 – 2016 **Amalgatech, LLC** Phoenix, AZ

*Owner, Chief Executive Officer, Chief Engineer*

Oversee ASTM and OEM standard analytical and performance testing of engine coolants.

Hire and train employees, establish HR program.

Total P & L responsibility.

Implemented and supervised ISO 9001 and 17025 quality systems.

1993–2000 **The Penray Companies, Inc.** Wheeling, IL

*Director, Technical Services*

Technical representation to engine and vehicle manufacturers.

Research and development of coolant and fuel technologies.

Investigation and resolution of problem situations.

1986–1992 **Stanadyne Automotive Corp.** Windsor, CT

*National Aftermarket Sales Manager*

Invented reverse osmosis coolant recycling technology, granted U.S. and foreign patents; published technical papers.

Formulated and marketed advanced diesel fuel additives, pioneered aftermarket fuel lubricity technologies and test methods.

Oversaw marketing of aftermarket products and provided global support.

1984–1986 **FPPF Chemical Co.** Buffalo, NY

*Manager, Special Projects*

Marketed early engine coolant recycling technology.

Formulated and promoted the sales of diesel fuel additives.

Designed, installed, implemented and oversaw first FPPF computer network and computerized telemarketing sales and support operation with 22 employees.

1976-1984     **Intermountain Farmers Assn.**     Salt Lake City, UT  
*Automotive Division Manager, District Manager, Store Manager*  
 Oversaw automotive product sales in 31 stores.  
 Provided sales and safety training to automotive specialists  
 Initially managed a \$2m retail Store offering farm & home supplies and then supervised 7 stores before being promoted to division manager.

## **HONORS AND AWARDS**

---

### **ASTM Award of Merit** 2018

The Award of Merit is the highest society award granted to an individual member for distinguished service and outstanding participation in ASTM International committee activities. Recipients also receive the honorary title of Fellow.

### **ASTM Daniel H. Greene Award** 2017

The Daniel H. Green Award is presented to a member of Committee D15 on Engine Coolants which has performed outstanding work in the committee.

### **ASTM Raymond H. Rudisill Award** 2006

The Raymond H. Rudisill Award is presented to a member of Committee D15 on Engine Coolants which has performed outstanding work in the committee.

### **NARSA Excellence in Training Award** 2002

The Excellence in Training award recognizes exceptional contribution to training in the radiator and cooling system industry.

### **ASTM Fellow** 2005

ASTM Award of Merit recipients are honored with the designation of Fellow for distinguished service and outstanding participation in ASTM International committee activities.

## **RESEARCH EXPERIENCE**

---

### **Amalgatech, Phoenix, AZ** 2000 to 2016

Chief Engineer

- Developed new coolant technologies with customers
- Developed new fuel additive formulations for global applications

### **The Penray Companies, Wheeling, IL** 1993 to 2000

Director, Technical Services

- Researched advanced coolant corrosion inhibition chemistries

### **Stanadyne Automotive Corp., Windsor, CT** 1986 to 1992

National Aftermarket Manager

- Invented advanced coolant recycling technologies
- Developed cold weather additives to address flow issues in low sulfur diesel

## TEACHING EXPERIENCE

---

**BYU Pathway Worldwide**, Salt Lake City, Utah  
**Site Leader**, Arizona Glendale

August 2014 to Current

- Facilitated *PathwayConnect*, a remote-learning undergraduate course averaging 104 students per semester, covering the following topics: basic math, basic English, religion
- Oversaw learning using the BYU-Idaho “Lead Student” process
- Assisted students in matriculation to other schools

## PUBLICATIONS

---

### *Books*

Eaton, Edward R. (Editor),  
**Global Testing of Extended Service Engine Coolants and Related Fluids**  
 ASTM International, 100 Barr Harbor Drive, PO Box C700,  
 West Conshohocken, PA 19438-2959. c. 2014

### *Journal Publications*

**“Extending the Corrosion of Heat-Rejecting Aluminum Surfaces Test for Developing and Evaluating Extended Service Interval Engine Coolant Formulations”** *Global Testing of Extended Service Engine Coolants and Related Fluids*, ASTM STP 1556, Edward R. Eaton, Ed., ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19438-2959, 2014.

**“Extending the Simulated Service Test for Developing and Evaluating Extended Service Interval Engine Coolants”**, *ibid.*

**“Protocol for Evaluating the Compatibility of Engine Coolants”** *Global Testing of Extended Service Engine Coolants and Related Fluids*, *ibid.*

**“An Investigation of the Effects of Low Sulfur Diesel Fuel on Winter Engine Operation and Recommended Changes in Wintertime Fuel Management Practices”**, SAE Technical Paper Series #952367, Society of Automotive Engineers, Warrendale, PA, 1995.

**“Observations of the Reliability Effects of Operating Heavy Duty Diesel Engines with a Nitrite/Borate/Low Silicate Coolant with no Coolant Change Interval”**,

SAE Technical Paper Series #960642, Society of Automotive Engineers, Warrendale, PA, 1996.

**“Development of an Ultra-Low Silicate, Phosphate-Free, Extended- Service Interval Coolant, Supplemental Coolant Additive and Maintenance Practice for Use in High Output Off-Highway and Powerplant Internal Combustion Iron Block Engines”**, SAE Technical Paper Series #961819, Society of Automotive Engineers, Warrendale, PA, 1996. (co-author Samuel Alexander, Detroit Diesel Corp.)

**“Engine Reliability Experience of Mixed Vehicle Fleets Operating on Engine Coolant Recycled with Reverse Osmosis Technology”**, SAE Technical Paper Series #962239, Society of Automotive Engineers, Warrendale, PA 1996

**“Recycling Used Engine Coolant Using High-Volume Multiple Technology Equipment”** *Engine Coolant Testing, Fourth Volume, ASTM STP 1335*, R. E. Beal, Ed., American Society for Testing and Materials, West Conshohocken, PA, 1997. (co-author M. E. Haddock, Recycled Engine Coolant, Inc.)

**“Extended Service of ‘Fully Formulated’ Heavy Duty Antifreeze in American Cars”**, *Engine Coolant Testing, Fourth Volume, ASTM STP 1335*, R. E. Beal, Ed., American Society for Testing and Materials, West Conshohocken, PA, 1997.

**“Development of Mobile, On-Site Engine Coolant Recycling Utilizing Reverse Osmosis Technology”**, *Engine Coolant Testing, Fourth Volume, ASTM STP 1335*, R. E. Beal, Ed., American Society for Testing and Materials, West Conshohocken, PA, 1997. (co-author W. Kughn, Toxguard, Inc.)

**“Modern Reverse Osmosis Recycling of Used Engine Coolant”**, SAE Technical Paper Series #971773, Society of Automotive Engineers, Warrendale, PA, 1997

**"An Assessment of the Validity of Conductivity as an Estimate of Total Dissolved Solids in Heavy Duty Coolants"**. *Engine Coolant Testing, Fourth Volume, ASTM STP 1335*, R. E. Beal, Ed., American Society for Testing and Materials, West Conshohocken, PA, 1997.

**“Fleet Test Evaluation of Fully-Formulated Heavy-Duty Coolant Technology Maintained with a Delayed-Release Filter Compared with Coolant Inhibited with an Organic Acid Technology”** *Engine Coolant Testing, Fourth Volume, ASTM STP 1335*, R. E. Beal, Ed., American Society for Testing and Materials, West Conshohocken, PA, 1997.

**“Standard Test Method for Cavitation and Erosion-Corrosion Characteristics of Aluminum Pumps with Engine Coolants”**, SAE Technical Paper Series #2001-01-

1181, Society of Automotive Engineers, Warrendale, PA, 2001. (co-author: Mary Ranger, Ford Motor Corp.)

**“A Chemical Base for Engine Coolant / Antifreeze with Improved Thermal Stability Properties”**, SAE Technical Paper Series #2001-01-1182, Society of Automotive Engineers, Warrendale, PA, 2001.

## **PATENTS**

---

Eaton; Edward Raynes, Boon; William H. Smith; Christopher John “Chemical base for fuel cell engine heat exchange coolant/antifreeze comprising 1,3-propanediol,” United States Patent, No. 7,452,479.

Eaton; Edward Raynes, Boon; William H. Smith; Christopher John “Chemical base for fuel cell engine heat exchange coolant/antifreeze ,” United States Patent, No. 7,410,598

Eaton; Edward, Kudcey; Scot D. “Heat-transfer systems ,” United States Patent, No. 7,407,600

Jousset; Todd A., Eaton, IV; Edward R., Knight; Steven R. “Device for monitoring of a coolant regeneration system” United States Patent, No. 6,835,304

Eaton; Edward Raynes, Boon; William H. Smith; Christopher John “Chemical base for engine coolant/antifreeze with improved thermal stability properties,” United States Patent, No. 6,818,146

Haddock; Marvin E, “Multi-stage engine coolant recycling apparatus and process” United States Patent, No. 6,620,327.

Haddock; Marvin E, “Multi-stage engine coolant recycling apparatus” United States Patent, No. 6,187,197.

Kughn; William C, “Antifreeze dyeing/mixing systems and methods” United States Patent, No. 8,287,176

## PRESENTATIONS AND INVITED LECTURES

---

**Keynote Speaker:** “Co-operation between ASTM International and the Korean Standards Association in Automotive Coolants”, Seoul, Korea 2014

**Maintenance Seminar,** “Extended Life Alternatives in Heavy Duty Engine Cooling Systems,” Vehicle Maintenance Management Conference, University of Washington College of Engineering, 2000.

**Maintenance Seminar,** “Maintaining Modern Heavy Duty Engine Cooling Systems,” Vehicle Maintenance Management Conference, University of Washington College of Engineering, 2001.

## PROFESSIONAL AFFILIATIONS

---

**ASTM International,** 1982-Present

Active member of Technical Committees on Fuels & Lubricants, Engine Coolant, Water and Sustainability. Offices held:

<u><b>Committee Affiliation:</b></u>	<u><b>Officer Title:</b></u>	<u><b>Years served in office:</b></u>
D15	Chairman	2012 – 2018
D15	Vice-Chairman	2010 - 2012
D15.01	Sub Chairman	2000 - 2004 2018 – Present
D15.04	Sub Chairman	2008 - 2012
D15.09	Sub Chairman	2012 - 2016
D15.09	Sub Vice-Chairman	2017 – Present
D15.25	Sub Chairman	2011 - 2012
D15.90	Sub Chairman	2012 – 2018
D15.93	Sub Chairman	1996 – 1998
D15.93.02	Section Chairman	2017 – Present

**Society of Automotive Engineers,** 1996-Present

Active member.

## PROFESSIONAL SERVICE

---

### **Symposium Organizer**

*Global Testing of Extended Service Engine Coolants and Related Fluids,*  
ASTM International, Indianapolis, IN, May 23, 2013

## COMMUNITY SERVICE

---

### **Boy Scouts of America**

Scoutmaster, Assistant Scoutmaster (multiple troops) 1972-1999

### **Church of Jesus Christ of Latter-Day Saints**

High Priest Group Leader, Litchfield Park, AZ 2012-2014

High Council of the Phoenix, Arizona Young Single Adult Stake, 2014-Present

### **Arizona State Rifle & Pistol Association**

Range Officer / Volunteer, Buckeye, AZ, 2018-Present

## LANGUAGES

---

**English:** Native Language

**French:** Intermediate Listener, Novice Speaker, Intermediate Reading and Writing

## EDUCATION

---

1976–1978	<b>University of Utah</b>	Salt Lake City, UT
▪	Chemical Engineering (no degree)	

1974–1976	<b>Bucknell University</b>	Lewisburg, PA
▪	Chemical Engineering (no degree)	

1972–1974	<b>American School of Paris</b>	Paris, France
-----------	---------------------------------	---------------

## OTHER

---

Citizenship: USA