

Laminar Sciences Corp

Developer Guide

January 2017

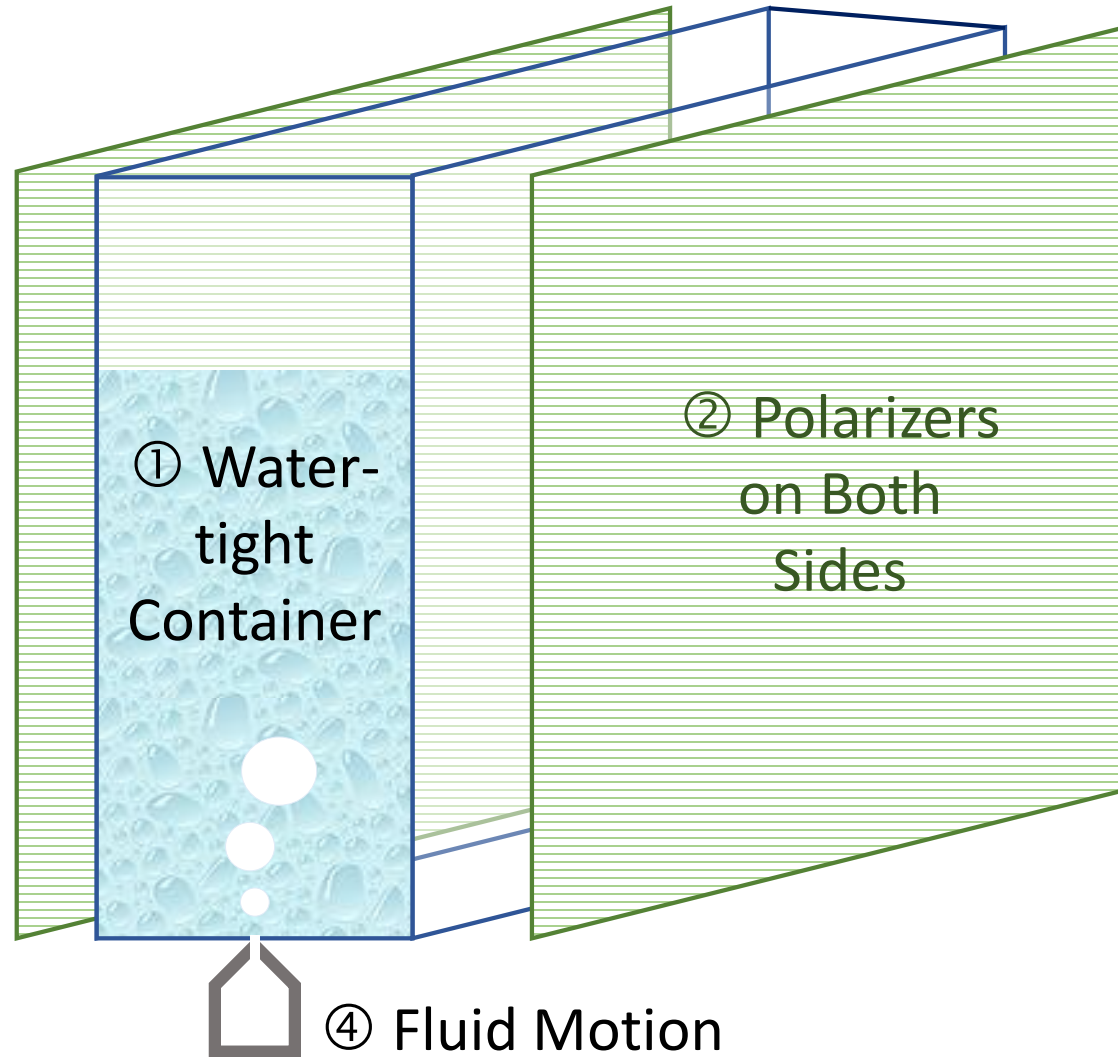
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Developer Guide Contents

- Fluid Use Fundamentals
- <sections to be added>
- Investigations on 90 degree light path
- Materials Supplier Suggestions

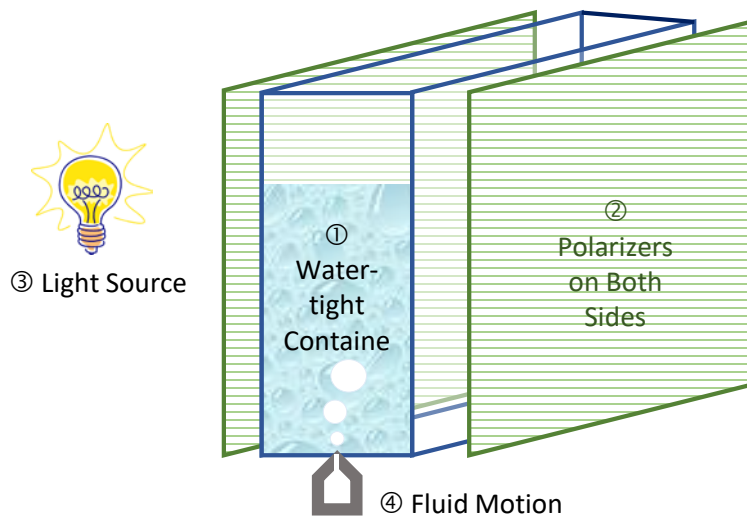
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Fundamentals of the Fluid



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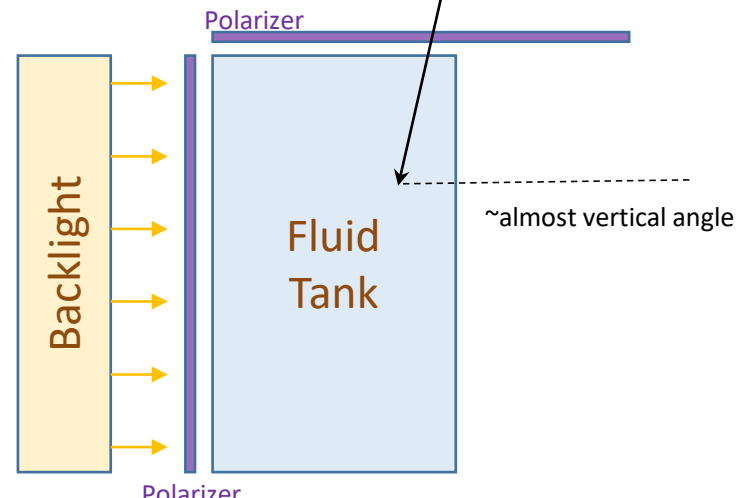
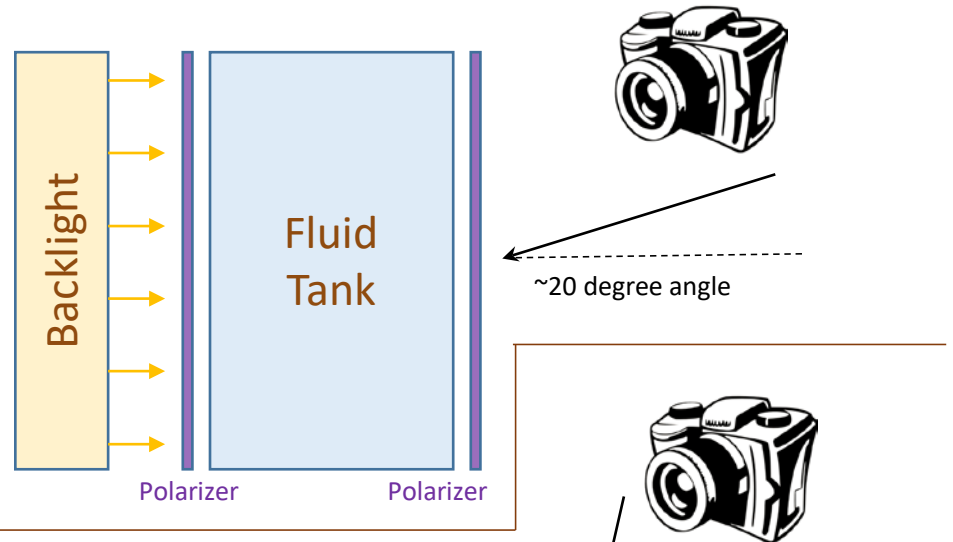
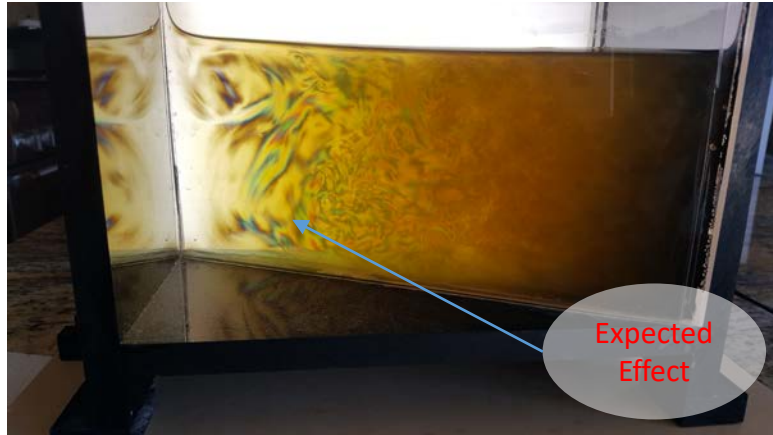
Fundamentals of the Fluid (details)



- ① Water-tight container
 - Hobbyist/Educational Fluid Formulation
 - 0.125" to 1.625" effective thickness range
 - 0.25" – 1.0" thickness is sweet-spot
 - Professional Fluid Formulation
 - 0.125" to ~4.0" effective thickness range
 - 0.25" – ~2.0" thickness is sweet-spot
- ② Polarizers on both sides
 - Linear polarizers: either parallel or crossed
 - Circular polarizers: will also work
- ③ Light Source
 - Full-spectrum white light; any color temperature seems to work
 - Backlight uniformity versus hot spots is designer choice
- ④ Fluid Motion
 - Air bubbles
 - Pumped fluid
 - Objects moving in fluid
 - Fluid container motion

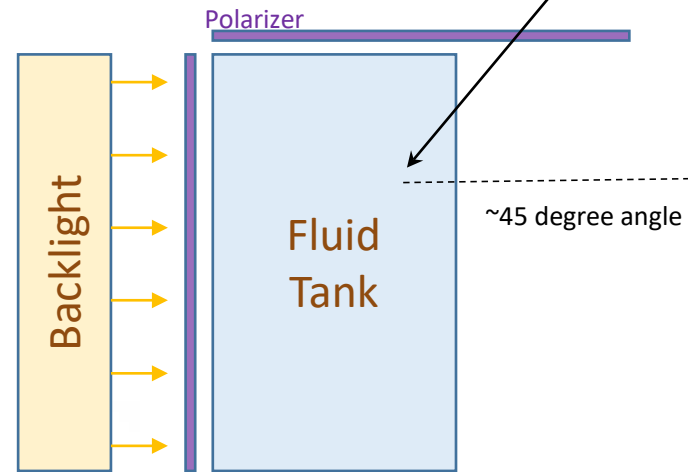
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90 Degree Light Path Investigations



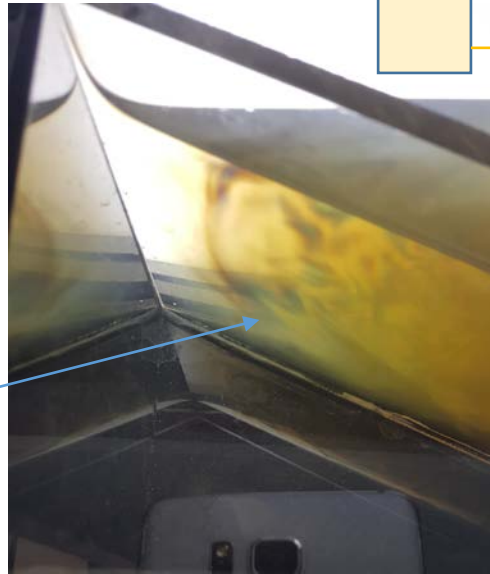
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Unexplained Phenomena



Little Effect

Expected Effect



Somehow, after the light passes through the front acrylic pane, the effect is visible even from above – but not when the light does not pass thru the acrylic pane???

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Supplier Options

Tank	Polarizer	Backlight	Motion	Supplier Name
✓				TAP Plastics http://www.tapplastics.com/
✓		✓		Evonik / Acrylite https://www.acrylite-shop.com/US/us/index.htm
	✓			Alight Polarizers http://polarization.com/
	✓			American Polarizers Inc http://www.apioptics.com/
		✓		Super Bright LEDs https://www.superbrightleds.com/
		✓		DCL Lumisheet http://www.dlc-lumisheet.com/
			✓	Greylor Pumps http://www.greylor.com/

Listing here does not represent endorsement of listed suppliers by Laminar Sciences Corp
Listed suppliers are examples only; many other suppliers likely exist