

Materials List for

# Simulation of Early Earth Hydrothermal Chimneys in a Thermal Gradient Environment

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## Materials

Name	Company	Catalog Number	Comments
3/8-Inch Clear Vinyl Tubing	Watts	SVIG10	Cut to desired length for experiment
40-pin Male to Female Wire Jumper Multicolored Ribbon Cables	EDGELEC	ED-DP_L30_Mix_120pcs	These wires will require stripping of plastic ends and carefully removing one of the 2 plastic casings
Aluminum seals	Fisher	0337523C	Thermo Scientific National Headspace 20 mm Crimp Seals
Ferric chloride hexahydrate	Fisher	I88-100	Ferric Chloride Hexahydrate (Lumps/Certified ACS)
Ferrous chloride tetrahydrate	Fisher	I90500	Ferrous Chloride Tetrahydrate (Crystalline/Certified)
Gear Hose Clamps	Glarks	40Pcs	
Gray butyl stoppers	Fisher	0337522AA	Thermo Scientific National 20 mm Septa for Headspace Vials
Pipette tips	VWR	53511-682	pipette tips 0.5-10 microliters
Serum bottles	Sigma-Aldrich	33110-U	Vials, crimp top, serum bottle, size 100 mL, clear glass, outer diameter x height 51.7 mm x 94.5 mm. For these experiments, the bottom of the serum bottle should be cut off.
Sodium hydroxide	Sigma-Aldrich	S5881	reagent grade, ≥98%, pellets (anhydrous)
Sodium sulfide nonahydrate	Fisher	S425212	Sodium Sulfide Nonahydrate (Crystalline/Certified ACS). Store at -20 °C. Only open in a glove box or fume hood. Releases toxic H <sub>2</sub> S gas; all sulfide-containing solutions must be kept in a glove box or fume hood.
syringe heater	Syringepump.com	HEATER-KIT-5SP	Clamp gear hose clamps around heating blanket
Syringe needles (16 gauge)	Fisher	14-826-18B	BD General Use and PrecisionGlide Hypodermic Needles, 16 G x 1.5 in. (38 mm)
Syringe Pump	Syringepump.com	NE-4000	Dual or multiple channel, depending on desired number of simultaneous experiments

Syringes (10 mL)	Fisher	14-823-16E	BD Syringe with Luer-Lok Tips (Without Needle)
Tubing	Cole Parmer	EW-06407-71	Tygon Lab Tubing, Non-DEHP, 1/16" internal diameter X 1/8" outer diameter
Water Circulation Pump	Bayite	BYT-7A015	May need two people to help prime pump