

Heating Baths:

Bath Material	Flash Point (°C)	Useful Range (°C)	Comments
Water	N/A	0 - 70	<ul style="list-style-type: none"> ◦ Non-flammable, non-toxic, cheap. ◦ No waste disposal for used bath. ◦ Easy to clean up if spilled. ◦ Evaporates quickly at relatively low T.
Mineral Oil	113	25-100	<ul style="list-style-type: none"> ◦ Inexpensive, widely available. ◦ Turns brown and polymerizes with prolonged use. ◦ Spatter danger from leaking water. ◦ Slippery, hard to handle, esp when hot. ◦ Low flashpoint.
Dibutyl phthalate	171	25 - 150	<ul style="list-style-type: none"> ◦ Less tendency to discolor/degrade. ◦ Relatively inexpensive. ◦ High bp; tempting to take above flash pt. ◦ Slippery, hard to handle, esp when hot.
Parrafin Wax	varies	55 - 180	<ul style="list-style-type: none"> ◦ Doesn't degrade as easily as mineral oil. ◦ Clean up by scraping and reusing wax. ◦ Spatter danger from leaking water. ◦ Slippery, hard to handle, esp when hot.
Silicone Oil	150 - 350	25 - 230	<ul style="list-style-type: none"> ◦ Greater working range than mineral oil. ◦ Less tendency to discolor/degrade. ◦ Moderately expensive. ◦ Spatter danger from leaking water. ◦ Slippery, hard to handle, esp when hot.
Wood's Metal 50% Bi, 25% Pb, 12.5% Sn, 12.5% Cd	N/A	70-350	<ul style="list-style-type: none"> ◦ High working temperature. ◦ Does not degrade easily. ◦ Stainless steel container required. ◦ Toxic (use in fume hood!). ◦ Moderately expensive. ◦ Hard to handle, esp when hot. ◦ Reaction flask can be hard to clean.
Eutectic salt mixtures 51.3% KNO ₃ ; 48.7% NaNO ₃ or 40% NaNO ₂ ; 7%NaNO ₃ ; 53%KNO ₃	N/A	230 – 500 or 142 - 500	<ul style="list-style-type: none"> ◦ Good choice for moderately high T. ◦ Does not degrade easily. ◦ Can be corrosive or react with certain vapors. ◦ Hard to handle, esp when hot. ◦ Cleanup usually easy.
Sand	N/A	25-500+	<ul style="list-style-type: none"> ◦ No practical temperature limit, non-flammable. ◦ Does not degrade. Inexpensive. ◦ Can use a heating mantle as the container. ◦ Non-toxic, easy to clean up and reuse. ◦ Spatter danger much lower. ◦ Chemically inert to organic materials. ◦ Slowest to heat and cool.

Source: <http://www.ilpi.com/inorganic/glassware/heatsources.html>