



Running a Low Temperature Reaction?

Add Aldrich Cooling Bath Mixtures

Ice-salt, dry ice, and liquid N₂ cooling mixtures for reaction baths.

T (°C)	Ice	CO ₂ (s)	N ₂ (l)
13		<i>p</i> -Xylene/CO ₂	
12		Dioxane/CO ₂	
6			Cyclohexane/N ₂
5		Benzene/CO ₂	
2		Formamide/CO ₂	
0	Crushed Ice		
-4	Ice/NH ₄ NO ₃ (ca. 0.94:1)		
-10	Ice/CaCl ₂ (ca. 2.5:1)		
-12			Cycloheptane/N ₂
-15	Ice/NH ₄ Cl (ca. 4:1)	Ethylene Glycol/ CO ₂	Benzyl alcohol/N ₂
-18	Ice/NaNO ₃ (ca. 2:1)		
-20	Ice/NaCl (ca. 3:1)		
-22			Tetrachloroethylene/N ₂
-25			1,3-Dichlorobenzene/N ₂
-29			<i>o</i> -Xylene/N ₂
-34	Ice/MgCl ₂ (ca. 1:0.85)		
-40	Ice/CaCl ₂ (ca. 0.8:1)		
-41			Acetonitrile/N ₂
-42		Acetonitrile/CO ₂	Pyridine/N ₂
-47			<i>m</i> -Xylene/N ₂
-55	Ice/CaCl ₂ (ca. 0.7:1)		
-56			<i>n</i> -Octane/N ₂
-61		Chloroform/CO ₂	
-63			Chloroform/N ₂

T (°C)	Ice	CO ₂ (s)	N ₂ (l)
-72		Ethanol/CO ₂	
-73			Isopropyl Acetate/N ₂
-77			<i>n</i> -Butyl Acetate/N ₂
-78		Acetone/CO ₂	
-83			Propylamine/N ₂
-84			Ethyl Acetate/N ₂
-89			<i>n</i> -Butanol/N ₂
-94			Hexane/N ₂
-95			Toluene/N ₂
-98			Methanol/N ₂
-100		Diethyl Ether/CO ₂	
-104			Cyclohexene/N ₂
-116			Ethanol/N ₂
-131			<i>n</i> -Pentane/N ₂
-160			Isopentane/N ₂
-196			Liquid N ₂

Safety guidelines for working with low-temperature reactions:

- Use less toxic solvents (e.g., heptane, ethyl acetate, ethanol)
- Liquid N₂ is cold enough to condensate liquid oxygen from the air. The co-condensation of organic solvents and oxygen with a boiling point of -182.95 °C is a potentially explosive mixture that must be avoided.

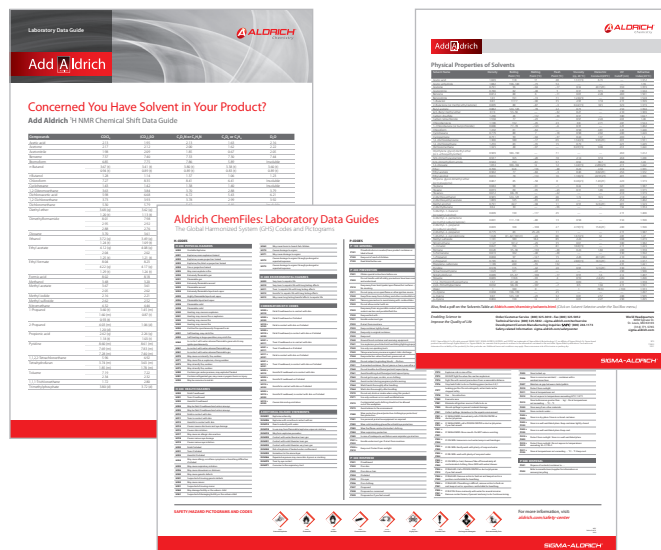
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