

Neutralizing formulations

HDI, IPDI, H₁₂MDI or polyisocyanates thereof are in principle not miscible with water. Liquid surfactants are necessary to allow better dispersion of isocyanate and neutralizing fluid. Alkaline neutralizers react faster than water/surfactant mixtures alone.

Formulation B reacts faster than *Formulation A*. However, ammonia-based neutralizers should be used only under well-ventilated conditions to avoid overexposure to ammonia or if members of the emergency team wear suitable respiratory protection. *Formulation C* is especially suitable for cleaning of equipment from unreacted isocyanate and neutralizing under freezing conditions. Regard has to be taken to the flammability of the alcoholic solution.

Formulation A		Formulation B	
Liquid surfactant	0.2 % to 2 %	Liquid surfactant	0.2 % to 2 %
Sodium carbonate	5 % to 10 %	Concentrated ammonia	3 % to 8 %
Water	to make up to	Water	to make up to 100
100 %		%	
Formulation C			
Ethanol, isopropanol or butanol	50 %		
Concentrated ammonia	5 %		
Water	to make up to		
100 %			