

# Formulation

Name	<b>INDUSTRIAL CLEAN-IN-PLACE CONCENTRATE</b>	
No.	1358	
Description	This concentrate, containing 25% active sodium hydroxide, is designed to be diluted to 1-2% strength for clean-in-place industrial cleaning applications. Wearing appropriate personal protective equipment (PPE), dilute just prior to use to 1-2% strength with water up to 400 ppm hardness. Using MAKON® UD-6, the foaming is low and fast-breaking.	
Formulation	<u>INGREDIENTS:</u>	<u>% by Weight</u> <u>Functionality</u>
	Deionized Water	30.1 Diluent
	Sodium Hydroxide, 50% solution	50.0 Buffer, pH Adjuster
	Sodium Gluconate	4.5 Chelating Agent
	2-Ethylhexyliminodipropionate	12.4 Hydrotrope
	MAKON® UD-6	3.0 Surfactant, Wetting Agent
	<b>Total</b>	<b>100.0</b>
Procedure	<ol style="list-style-type: none"> <li>1. Charge Deionized Water to mix tank.</li> <li>2. Carefully and slowly blend in the Sodium Hydroxide, 50% solution with mixing.</li> <li>3. Dissolve the Sodium Gluconate into the solution with mixing.</li> <li>4. Blend the 2-Ethylhexyliminodipropionate into the solution with mixing.</li> <li>5. Ensure the MAKON® UD-6 is uniform and clear. Warm to 60°C (140°F) with mixing if needed.</li> <li>6. Blend the MAKON® UD-6 into the solution with mixing until homogeneous.</li> </ol>	
Physical Properties	Appearance at 25°C	Clear liquid
	pH, 1% aqueous	12.5 - 13.5
	Cloud Point, °C	> 80
	Ross Miles Foam, Initial (1% strength, 140ppm hard water), cm	5.8
	Ross Miles Foam, 5 minutes (1% strength, 140ppm hard water), cm	1.1
Storage/ Stability	4 weeks at 25°C	Pass
	4 weeks at 50°C	Pass
	4 weeks at 4°C	Pass
	Freeze/Thaw, 3 cycles	Pass (fluid at -15 °C)
Instructions for Use	<p>Handle with care. Wear required PPE. Dilute with on-site water, up to 400ppm hardness, to 1% strength. Introduce into equipment to be cleaned. Rinse equipment and reclaim or process rinse effluent per local, state and federal regulations.</p> <p>This concentrated caustic cleaner when diluted to 1% strength with 140ppm tap water, provides &lt;30mN/m dynamic surface tension lowering in less than 1 minute, &lt;35 mN/m in less than 2 seconds, making it useful for CIP cleaning where speed of wetting is important.</p>	
External Comment	<p>Marketing Notes: MAKON® UD-6 provides the rapid, effective surface tension reduction compared to hydrotrope alone. This formulation can be a useful alternative to phosphate esters where low</p>	

1,4-dioxane levels are necessary. At a 1ppm limit of detection, no 1,4-dioxane has been detected in MAKON® UD-6. The other components of this formulation do not contain ethylene oxide, so therefore they would not form 1,4-dioxane.

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