

Product Bulletin

Product Name	MAKON® NF-5																																		
Chemical Description	Alkoxylated Isopropanolamide																																		
CAS Registry No.	64175-88-8 and 64175-92-4																																		
Applications	MAKON NF-5 is a biodegradable nonionic surfactant that exhibits low foaming properties and excellent wetting action. MAKON NF-5 may be readily formulated into highly alkaline built liquid systems. Solutions of MAKON NF-5 resist foam development even under extreme or prolonged agitation; they are completely non-foaming above 25 °C. MAKON NF-5 can be used in a variety of applications including mechanical dishwashing, rinse aids, metal cleaning, spray washing, general purpose cleaning, emulsion polymerization, textile wetting and scouring, agricultural adjuvant and non-foaming emulsions.																																		
Typical Properties	<table border="0"> <tr> <td>Appearance at 25 °C.....</td> <td>Amber liquid</td> </tr> <tr> <td>pH, 5% aqueous.....</td> <td>9</td> </tr> <tr> <td>Actives, %</td> <td>97</td> </tr> <tr> <td>Color, Gardner</td> <td>5</td> </tr> <tr> <td>Pour Point, °C (°F)</td> <td>4 (39)</td> </tr> <tr> <td>Freeze Point, °C (°F).....</td> <td>2 (36)</td> </tr> <tr> <td>Cloud Point, 1% in water, °C (°F).....</td> <td>-1 (30)</td> </tr> <tr> <td>Viscosity at 25 °C, cps</td> <td>260</td> </tr> <tr> <td>Viscosity at 60 °C, cps</td> <td>20</td> </tr> <tr> <td>Flash Point, PMCC, °C (°F).....</td> <td>>94 (>201)</td> </tr> <tr> <td>Density, g/ml (lbs/U.S. gal).....</td> <td>1.02 (8.5)</td> </tr> <tr> <td>RVOC, U.S. EPA, %</td> <td>0</td> </tr> <tr> <td>Preservative</td> <td>Not required</td> </tr> <tr> <td>Draves Wetting, 0.25% aqueous, sec at 25 °C</td> <td>14.5</td> </tr> <tr> <td>Surface Tension, 0.25% aqueous, dynes/cm at 25 °C</td> <td>36.4</td> </tr> <tr> <td>Foam Height, Ross-Miles, cm, initial.....</td> <td>1.7</td> </tr> <tr> <td>Foam Height, Ross-Miles, cm, 5 min.</td> <td>0.5</td> </tr> </table>	Appearance at 25 °C.....	Amber liquid	pH, 5% aqueous.....	9	Actives, %	97	Color, Gardner	5	Pour Point, °C (°F)	4 (39)	Freeze Point, °C (°F).....	2 (36)	Cloud Point, 1% in water, °C (°F).....	-1 (30)	Viscosity at 25 °C, cps	260	Viscosity at 60 °C, cps	20	Flash Point, PMCC, °C (°F).....	>94 (>201)	Density, g/ml (lbs/U.S. gal).....	1.02 (8.5)	RVOC, U.S. EPA, %	0	Preservative	Not required	Draves Wetting, 0.25% aqueous, sec at 25 °C	14.5	Surface Tension, 0.25% aqueous, dynes/cm at 25 °C	36.4	Foam Height, Ross-Miles, cm, initial.....	1.7	Foam Height, Ross-Miles, cm, 5 min.	0.5
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Biodegradability	MAKON NF-5 is biodegradable. A detailed biodegradability statement is available upon request.																																		
Toxicity	MAKON NF-5 is slightly toxic orally (LD ₅₀ =2.5 g/kg).																																		
Storage & Handling	<p>Normal safety precautions (i.e., gloves and safety goggles) should be employed when handling MAKON NF-5. Contact with the eyes and prolonged contact with the skin should be avoided. Wash thoroughly after handling material.</p> <p>It is recommended that MAKON NF-5 be stored in sealed containers and kept in a cool, dry place.</p> <p>Bulk Storage Information: MAKON NF-5 can be stored in vessels of 316 stainless steel, but carbon steel is adequate. Material should be stored between 80-110 °F (27-43 °C). An internal hairpin coil of stainless/ carbon steel with low pressure steam (under 50 psig) should be used if heating is required. Mild agitation is required if the tank is heated. Material is heat sensitive and agitation prevents localized heating. Heating may not be required for inside storage if the tank is turned over frequently. Stainless steel 316 is preferred for pumps, pipes and transfer lines; however, carbon steel is adequate.</p> <p>Standard Packaging: MAKON NF-5 is available in drums, totes and in bulk quantities.</p>																																		



Clearances

All components of MAKON NF-5 are listed in the following countries; the registration numbers for the active ingredients are included in parentheses: United States (TSCA), Europe (EINECS polymer exemption) and Canada (DSL 64175-88-8).

MAKON NF-5 is available as Kosher certified.

It is the responsibility of the formulator to review the chemical control regulations for each country where the end product is intended to be sold or used.

Product
Stewardship

This product bulletin has been written in accordance with ACC's Product Stewardship guidelines.

Additional
Safety
Information

A Safety Data Sheet is available upon request.



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