



9 Suga®Nate

CLEARANCES: TSCA, NDSL, AICS, ENCS, NZIoC
PATENT: # 6,627,612 B1

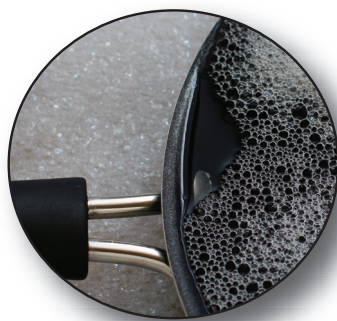
INCI NAMES

Suga®Nate 100 - Sodium Decylglucosides Hydroxypropylsulfonate

Suga®Nate 160 - Sodium Laurylglucosides Hydroxypropylsulfonate

INTRODUCTION

Suga®Nates are surfactants based on the renewable resources of corn and coconut. They provide excellent foam, emulsification, lime soap dispersion and stability at any pH for maximum flexibility in the preparation of light and heavy-duty cleaners. **Suga®Nates** are also mild to skin making them useful anywhere worker exposure is a concern.



WHY USE SUGA®NATE?

- Naturally derived
- Extremely mild to skin and eyes
- Biodegradable
- Builds wet, dense, stable foam
- Excellent wetting properties
- Stable over broad pH range
- Excellent lime soap dispersion
- 1,4-Dioxane-free
- Excellent emulsification
- Compatible with other surfactants
- Excellent hydrotroping properties
- Safe for the environment
- Safe for humans

APPLICATIONS

- Carpet cleaners
- Hard surface cleaners
- Dish wash products
- Hand soaps

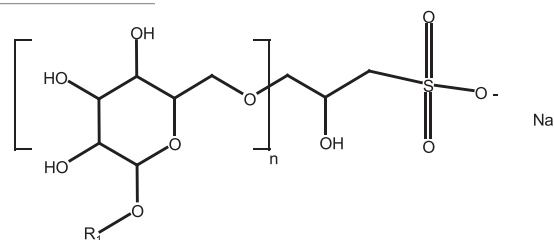
TYPICAL PROPERTIES

	100	160
Solids, %	40.0	40.0
pH (10% aqueous)	7.0	7.0
Color, Gardner	<1	<1
Viscosity, cps	50	7,500

PERFORMANCE DATA (1% ACTIVE)

	100	160
Ross-Miles Foam, mm		
Immed.	175	155
1 min.	163	152
5 min.	160	150
Draves Wetting, sec.	Immed.	7.2

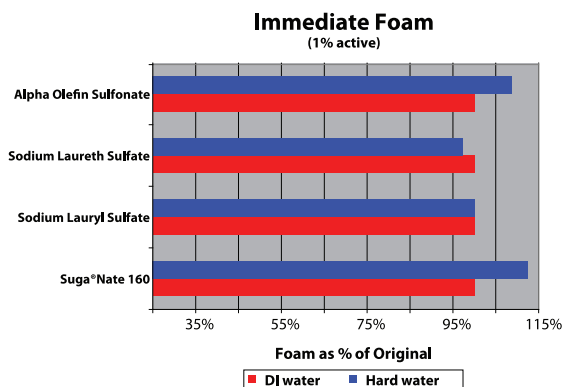
STRUCTURE



9 GREEN STAR RATING
100 = 7.06 160 = 7.27

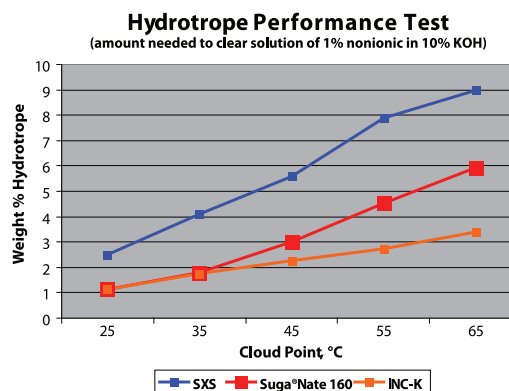


HARD WATER FOAMING



Suga®Nate 160 builds wet, dense, stable foam. The foam height of **Suga®Nate 160** is not only very comparable to traditional primary surfactants, but it also shows very good tolerance to hard water. As the graph above illustrates, **Suga®Nate 160** actually has higher foam in hard water conditions than in DI water.

HYDROTROPING PROPERTIES



Suga®Nate 160 has excellent hydrotroping properties. In the graph above, it is compared to Sodium Xylene Sulfonate (SXS) and Cola®Trobe INC-K (Potassium Alkanoate surfactant). **Suga®Nate 160** has better hydrotroping properties than SXS and is comparable to ColaTrobe INC-K at lower temperatures.

GREEN LAUNDRY DETERGENT FORMULATION

Compound	Weight %
Water	50.0
Suga®Nate 160	25.0
Cola®Liquid DL	8.0
Cola®Cap MA257	8.0
Cola®Trobe CA	6.0
Versene 100	0.5
Sodium Metasilicate	0.5
Sodium Bicarbonate	2.0
	100.0

Appearance	Clear lightly viscous liquid
pH (10% aq.)	9.0
Solids, %	31.0

PROCEDURE: Mix all ingredients; add brighteners, fragrance, peroxides as needed.

MILD LIQUID HAND SOAP FORMULATION

Compound	Weight %
Water	54.9
Suga®Nate 160	27.8
Cola®Teric LMB	9.5
Cola®Lux LO	7.8
	100.0

Appearance	Clear lightly viscous liquid
pH (as is)	8.09
Solids, %	20.0

PROCEDURE: Mix all ingredients; check pH and adjust to 5.5 - 6.5 with NaOH as needed.