

## Starting Formulation, CL-9031

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1/2

### End-Use Homecare

Acidic bathroom cleaner with pH of 2.5

Utilized OPTIGEL-WX

Sprayable, rinse off bathroom cleaner utilizes OPTIGEL-WX for excellent surface cling. By allowing the cleaner to stay on the surface longer, a weaker (safer) acid can be employed.

### Formulation

Pos.	Component	Supplier	Function	Weight [g]
1	Demineralized water		Solvent	32.7
2	<b>OPTIGEL-WX (100%)</b>	<b>BYK</b>	<b>Rheology additive</b>	<b>1.4</b>
3	Demineralized water		Solvent	60.4
4	citric acid monohydrate		Acid	4.0
5	Berol 648 NG**	Julius Hoesch	Cationic surfactant	1.5
				100.0

\*\* Berol 648 NG is a quaternary C12-C14 alkyl methylamine ethoxylate methyl chloride

### Instructions

Mix the initial portion of water with the OPTIGEL-WX and stir for 20 minutes at 2500 rpm with a 30mm tooth blade ( 4 m/s ). The dispersion should be homogenous at this point.

Premix water and citric acid monohydrate and stir 5 minutes at 2200 rpm ( 3.5 m/s ).

Slowly incorporate the citric acid solution while stirring and continue for 10 more minutes at 2900 rpm ( 4.5 m/s ).

Finally, add the surfactant and stir for 5 minutes at 1600 rpm ( 2.5 m/s ).

## Characteristic Data/ Specification

Data	Unit	Value
pH value		2.5
Viscosity byko-visc Advanced EX L Spindle L 3 at 10 rpm	mPa-s	1200-1400
Viscosity byko-visc Advanced EX L Spindle L 3 at 100 rpm	mPa-s	200-250
Rheological additive solids	%	1.4
Solids	%	5.4

## Further information / Application

The formulation is designed to be used as is.

Spray the acid cleaner undiluted on bathroom surfaces, then rinse with water after 5 minutes.

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