

Formulation

Name	LIQUID LAUNDRY CLEANING BOOSTER																													
No.	1144																													
Description	Liquid formulation that boosts cleaning, especially when used in combination with economy detergent formulations.																													
Formulation	INGREDIENTS: STEOL® CS-460 (or STEOL® CS-460 PLUS) BIO-SOFT® EC-690 AMMONYX® MCO Hardened Coconut Fatty Acid Sodium Hydroxide (50% aqueous solution) Borax Pentahydrate Propylene Glycol Citric Acid (50% aqueous solution) Protease Amylase Ethanol Deionized Water, Fragrance, Colorant and Preservative	<table border="1"> <thead> <tr> <th><u>% by Weight</u></th> <th><u>Functionality</u></th> </tr> </thead> <tbody> <tr> <td>4.20</td> <td>Surfactant</td> </tr> <tr> <td>6.00</td> <td>Surfactant</td> </tr> <tr> <td>5.00</td> <td>Secondary Surfactant</td> </tr> <tr> <td>1.00</td> <td>Foam Modifier</td> </tr> <tr> <td>3.60</td> <td>Neutralizer</td> </tr> <tr> <td>2.30</td> <td>Stabilizer</td> </tr> <tr> <td>2.00</td> <td>Stabilizer</td> </tr> <tr> <td>6.00</td> <td>Builder</td> </tr> <tr> <td>1.50</td> <td>Enzyme</td> </tr> <tr> <td>0.75</td> <td>Enzyme</td> </tr> <tr> <td>0.90</td> <td>Additives</td> </tr> <tr> <td>q.s. to 100</td> <td></td> </tr> <tr> <td>Total</td> <td>100.00</td> </tr> </tbody> </table>	<u>% by Weight</u>	<u>Functionality</u>	4.20	Surfactant	6.00	Surfactant	5.00	Secondary Surfactant	1.00	Foam Modifier	3.60	Neutralizer	2.30	Stabilizer	2.00	Stabilizer	6.00	Builder	1.50	Enzyme	0.75	Enzyme	0.90	Additives	q.s. to 100		Total	100.00
<u>% by Weight</u>	<u>Functionality</u>																													
4.20	Surfactant																													
6.00	Surfactant																													
5.00	Secondary Surfactant																													
1.00	Foam Modifier																													
3.60	Neutralizer																													
2.30	Stabilizer																													
2.00	Stabilizer																													
6.00	Builder																													
1.50	Enzyme																													
0.75	Enzyme																													
0.90	Additives																													
q.s. to 100																														
Total	100.00																													
Procedure	<ol style="list-style-type: none"> Charge 140°F (60°C) water (50% of the calculated total required) and start agitation. Keep agitation going until batch is complete. Add Citric Acid and wait until dissolved. Add Borax Pentahydrate and mix until dissolved. Add Propylene Glycol with mixing. Add molten Hardened Coconut Fatty Acid with mixing. Fatty Acid will turn the batch cloudy when added. Add Sodium Hydroxide charge with mixing. Fatty Acid gels slightly, but dissolves. After a short time, batch will become clear. Add STEOL® CS-460 (or STEOL® CS-460 PLUS) with mixing. Add BIO-SOFT® EC-690 with mixing. Add AMMONYX® MCO with mixing. Adjust pH with Sodium Hydroxide. pH target range is 8.5 to 9.0, with a specific target of 8.8. Once batch has cooled to 90°F (32°C) or below, add Preservative, Enzymes, Ethanol, Colorant, and Fragrance with mixing. With mixing, add the required amount of Deionized Water to complete the batch. Run final pH check. If pH is below 8.5, adjust into target range with Sodium Hydroxide. If pH is above 9.0, adjust into target range with Hydrochloric Acid. <p>**While this formulation provides a starting point, it is up to the end manufacturer to ensure their formulations and products meet all application regulations, including the New York 1,4-dioxane concentration limits.</p>																													
Physical Properties	Appearance at 25°C pH, as is Viscosity at 25°C, cps	Clear liquid 8.5 - 9.0 (Target 8.8) 150 - 300																												

Storage/ Stability	3 Freeze/Thaw Cycles	Pass
	4 Weeks at 5°C	Pass
	4 Weeks at Room Temperature	Pass
	4 Weeks at 40°C	Pass

Instructions for Use 33 loads/45 fl. oz. bottle = 1.36 Fl. oz/load

External Comment Marketing Notes: BIO-SOFT® EC-690 is an approved ingredient on www.cleangredients.org. For further information, visit www.cleangredients.org or www.stepan.com. STEOL CS-460 PLUS has a maximum residual 1,4-dioxane level of 9 ppm on an as-supplied basis.

Registered Trademarks of Stepan Company AMMONYX®
BIO-SOFT®
STEOL®

For Additional Assistance For applications or product handling assistance, call our Technical Service Department at 1-800-745-7837 (U.S.) or +33 476 505 100 (Europe).
For ordering assistance, call our Account Service Department at 1-800-457-7673.

The information contained herein is based on the manufacturer's own study and the works of others and is subject to change without prior notice. The information is not intended to be all-inclusive, including as to the manner and conditions of use, handling, storage or disposal or other factors that may involve additional legal, environmental, safety or performance considerations. Nothing contained herein grants or extends a license, express or implied, in connection with any patents issued or pending of the manufacturer or others, or shall be construed as a recommendation to infringe any patents. **STEPAN COMPANY MAKES NO PRODUCT WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR USE, EXPRESS OR IMPLIED, AND NO OTHER WARRANTY OR GUARANTY, EXPRESS OR IMPLIED, IS MADE, INCLUDING AS TO INFORMATION REGARDING PERFORMANCE, SAFETY, SUITABILITY, STABILITY, ACCURACY, COMPLETENESS, OR ADEQUACY.** Stepan Company (and its employees, subsidiaries and affiliates) shall not be liable (regardless of fault) to the vendee, its employees, or any other party for any direct, indirect, special or consequential damages arising out of or in connection with the accuracy, completeness, adequacy, furnishing, use, or reliance upon information provided herein. The vendee assumes and releases Stepan Company (and its employees, subsidiaries and affiliates) from all liability, whether in tort, contract or otherwise to the fullest extent possible under the relevant law.



Stepan Company
Northbrook, Illinois 60062
Telephone (847) 446-7500