



Flexiclean™ CC-560G

Functionalized “green system” dispersant polymer

Overview

- Dispersant polymer used in encapsulating carpet and upholstery cleaning formulations
- Provides powerful cleaning properties without tacky residue
- Eliminates rapid resoiling through brittle dry down and encapsulation
- Formulations are readily certifiable via Carpet and Rug Institute (CRI) Seal of Approval program, Green Seal GS-37, and other Independent Certification programs
- Enhances dry soil pick-up during vacuuming
- Imparts anti-soiling properties to cleaned surfaces
- Allows reduction of the detergent load in cleaning formulations
- Ultra-Low VOC for effective formulations with less than 1% total VOC
- Enables use of one “Super Concentrate” to create an entire “Next Generation” carpet cleaning program
- WERCS ID number: WPS1168750
- WERCS Validation number: 1168750

Applications

- Commercial and Retail carpet and upholstery cleaners: Extraction, Pre-spray, Traffic Lane, Spotter, Low Moisture, Bonnet Buff
- Automotive carpet and upholstery cleaners

Technical Information

Many carpet cleaning products used in the commercial and retail marketplace are highly alkaline detergent/surfactant systems that leave behind tacky soil-attracting residues. The chemical nature of high alkaline tacky products can sometimes damage the stain resistance built into the carpet by the carpet manufacturer. While some of these products clean effectively, their residues will actually damage the carpet and cause rapid resoiling. This rapid resoiling can result in complaints from owners who have their carpets professionally cleaned, only to find that the carpet gets dirty and grey soon after cleaning. Another common complaint related to carpet and upholstery spot cleaners is that upon removing a stain, the stain quickly returns, bigger than the original spot. This effect is caused by tacky residual detergent attracting oily particulate soil. It is not that the stain came back: a new stain is appearing because of the nature of the spot cleaner’s residue.

These common industry problems have led to the Carpet and Rug Institute’s recent Seal of Approval Program which verifies and certifies a product’s cleaning and resoiling character (www.carpet-rug.org). Using Flexiclean CC-560G in upholstery and carpet cleaning formulations eliminates these problems. When used as prescribed, Flexiclean CC-560G formulations can be readily certified via the CRI Seal of Approval Program, providing a next generation product with excellent cleaning and minimal resoiling.

Typical Properties

PROPERTY	VALUE
Appearance	Clear, pale yellow to yellow liquid
Odor	Mild ammonia
Ionic character	Anionic
Water solubility	Soluble
pH (as is)	9.0 to 10.0
Density@25°C	1.07±0.02
Boiling Point	100°C
Flash point	None (aqueous)
Storage	Stable to freezing
Shelf life	12 months

Packaging and Handling

Flexiclean CC-560G is available in:
275 gallon totes (Net Wt. 2300 lbs)
55 gallon plastic drums (Net Wt. 460 lbs)
5 gallon pails (Net Wt. 40 lbs).

Refer to the Safety Data Sheet (SDS) for information on the safe use, handling, and disposal of this product.

DOT Classification: Non-Regulated

Whether you’re looking for a replacement product or an ingredient for a specific attribute, give us a call. We can provide assistance based upon your particular formulation requirements and composition; please feel free to contact us.

Please refer to back page for important information

Flexiclean CC-560G

Versatile formulating ingredient

Flexiclean CC-560G is a versatile formulating ingredient for formulated Carpet and Upholstery cleaning products. Designed for performance synergies with other optimized ICT ingredients, Flexiclean CC-560G can be formulated into best-of-class performance end-use products and Super Concentrates.

Flexiclean CC-560G is a unique Next Generation detergent polymer that provides effective cleaning performance that virtually eliminates the resoiling deficiencies of older generation carpet and upholstery cleaning products by lifting and encapsulating soils and tacky residues.

ICT has developed and optimized ingredients that enhance and synergize the cleaning and soil encapsulating performance of Flexiclean CC-560G:

Flexisperse™ 220

Unique acid polymer builder and dispersant

Flexisperse 220 is an acid polymer developed for use in carpet care products as a dispersant and builder that enhances stain resistance. When used with Flexiclean CC-560G, Flexisperse 220 provides:

- Enhanced soil resistance
- Reduced wick-back and browning
- Reduced scale and hard water deposits on equipment
- Neutralizes ammonia odor in CC-560G

Range of formulating options

Flexiclean CC-560G can be formulated into a economical “Super Concentrate” that by simply diluting in water can produce a full line of “Next Generation” carpet and upholstery cleaning products:

GREEN Carpet & Upholstery Cleaner “Super Concentrate”	
Ingredient	Wt. %
Water	to 100
Flexisperse 220	5.0
Flexiclean CC-560G	35.0
Xiameter AFE-0010	as needed
pH: 8-10 Add ingredients in order listed with sufficient agitation. Add fragrance and preservative as desired.	
Next Generation Spotter/Traffic Lane/Bonnet Cleaner	
Ingredient	Wt. %
“Super Concentrate”	8-16
Water	q.s.
Use dilution: RTU Add fragrance and preservative as desired.	
Next Generation Extraction Cleaner	
Ingredient	Wt. %
“Super Concentrate”	10-25
Water	q.s.
Use dilution: 2-4 ounces per gallon Add fragrance and preservative as desired.	
<i>Note: The pH of the final product should be between 8.0-9.5 in order to optimize cleaning and prevent possible damage to carpets.</i>	

Range of formulating options

Flexiclean CC-560G can be formulated as the base ingredient for High Performance Carpet and Upholstery Cleaners utilizing ICT ingredient Flexisperse 220 for differentiated product performance across a wide range of formulation options as illustrated by the Extraction Cleaner formulations below:

Extraction Cleaners								
Ingredient	Wt. %							
Water (*adjust as needed)	71.0	77.0	86.0	89.0	91.0	93.0	95.0	96.2
Flexisperse 220	4.0	3.0	2.0	1.0	1.0	1.0	1.0	0.8
Flexiclean CC-560G	25.0	20.0	12.0	10.0	8.0	6.0	4.0	3.0
Xiameter AFE-0010 (as needed)								

pH: 8-10
Add ingredients in order listed with sufficient agitation. Add fragrance and preservative as desired. *Adjust water as needed.

Soiling performance data

Evaluation of Resoiling Characteristics of Carpet Cleaning Products

Accelerated Soiling of Pile Yarn Floor Covering (ASTM D 6540-00)

This is a standardized laboratory procedure for determining the effects of cleaning equipment, chemistry and technologies on the resoiling properties of a specified floor covering. A control test carpet is prepared by applying 3 grams of ready-to-use cleaning solution diluted according to label instructions in a 2.5 inch circle template. The control test carpet is allowed to thoroughly ambient temperature dry and is then soiled per ASTM D6540-2000. Additional control carpet that has no cleaning solution applied is soiled per ASTM D6540-2000. The difference (ΔE_c) between the unsoiled carpet and the soiled control; and the difference (ΔE_t) between the unsoiled carpet and the soiled test carpet (cleaned) are measured using a HunterLab Miniscan XE Spectrophotometer. The difference between these results is calculated as: $\Delta \Delta E = \Delta E_c - \Delta E_t$

This test practice is applicable to all liquid carpet cleaning chemicals.

26 oz. cut pile, nylon 6,6 tenth gauge, carpet squares (free of any prior dye or stain protection treatments) were used in this evaluation.



Flexiclean CC-560G
Extraction Cleaner

Commercial
Extraction Cleaner

Test Results			
Sample	ΔE_c	ΔE_t	$\Delta \Delta E^*$
1	15.80	11.43	4.37
2	14.13	17.62	-3.49

* Negative numbers indicate treated carpet attracts more soil than the untreated standard

Sample 1: Flexiclean CC-560G based extraction cleaner
Sample 2: Commercial extraction cleaner product

The difference ($\Delta \Delta E$) between the treated and untreated carpet squares after soiling and cleaning was +7.86 $\Delta \Delta E$ units, indicating a strong resistance to carpet soiling for the Flexiclean CC-560G-based formulation versus the Commercially Available product.

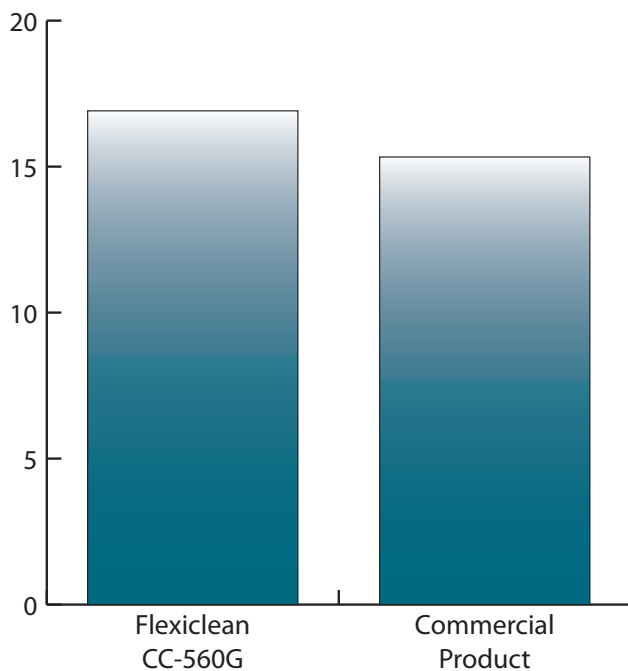
Cleaning performance data

Cleaning Efficacy Evaluation of Carpet Cleaning Products

Evaluation Procedures for CRI Carpet Cleaning Certification of In-Tank and Pre-Spray Cleaning Products (CRI TM 111)

This is a standardized laboratory procedure for determining the cleaning efficacy of cleaning chemicals which are designed to be applied as a pre-spray or by using extraction equipment. Uniformly soiled control test carpet is prepared per ASTM D6540-2000. Additional unsoiled control carpet is prepared. The soiled control test carpet is cleaned using specific extraction equipment and procedures. The difference (ΔE_s) between the soiled control test carpet and the unsoiled control carpet; and the difference (ΔE_f) between the cleaned control carpet and the unsoiled control carpet is measured using a HunterLab Miniscan XE Spectrophotometer to determine the degree to which the cleaning chemical was able to restore the control carpet to its original appearance. The difference between these results is calculated as: $\Delta \Delta E = \Delta E_s - \Delta E_f$

This test practice is applicable to all liquid carpet cleaning chemicals.



Test Results					
Sample	ΔE_s	ΔE_f	$\Delta \Delta E^*$	Wet Passes	Dry Passes
1	20.55	3.64	16.91	3	3
2	18.32	2.99	15.33	3	3

* Larger, more positive numbers indicate cleaner carpet

Sample 1: Flexiclean CC-560G based extraction cleaner
Sample 2: Commercial extraction cleaner product

26 oz. cut pile, nylon 6,6 tenth gauge, carpet squares (free of any prior dye or stain protection treatments) were used in this evaluation. The extraction equipment specifications of control extractor/wand: 1.0 gallon solution tank; 1.5 gallon recovery tank; 60 psi solution pump; 3 stage 1.8 hp vacuum motor; 136 inch sealed water lift; single jet (110-03) 4" wand.

The difference ($\Delta \Delta E$) between the cleaned carpet squares after soiling and cleaning was +1.58 $\Delta \Delta E$ units, with $>1 \Delta \Delta E$ unit being significant and readily observable, indicating a strong cleaning performance result for the Flexiclean CC-560G-based formulation versus the Commercially Available product.

This information relates only to the specific material referred to herein and not to its use in combination with any other material or in any process, unless explicitly stated herein. Such information is, to the best of our knowledge and belief, accurate and reliable as of the date compiled; however, no warranty, guarantee or other representation is made as to its accuracy, reliability, or completeness, or regarding any liabilities arising from others' intellectual property rights. ID# 20220113