



Cola[®]Quat SME

Deodorizing Quat

INCI Soyethyl Morpholinium Ethosulfate

CAS 61791-34-2

INVENTORIES US (TSCA); EU (REACH); Canada (DSL); China (IECSC & IECIC); Australia (AIIIC); Philippines (PICCS); Korea (KECI); New Zealand (NZIoC); Taiwan (TSCI)

Cola[®]Quat SME is a cationic surfactant that neutralizes a wide range of unpleasant odors. This product forms a complex with volatile organic molecules, minimizing their potential for producing odors and lowering their intensity in the air. Cola[®]Quat SME is easy to formulate, completely water soluble without the need of additional solubilizers. Cola[®]Quat SME may be used in combination with fragrances with diminished effectiveness or as a stand-alone deodorizer fragrance-free. Cola[®]Quat SME is effective in complexing and eliminating airborne and surface malodors such as tobacco, vegetable smells, body odor, animal scents and cooking fat.

APPLICATIONS

Consumer

- Deodorizer for homes, hotels and cars
- Deodorizer for garbage containers and kitchen surfaces
- Laundry deodorants
- Space deodorizers (aerosols, solids)

Industrial

- Effluent odor control
- Food processing plant odor control
- Sanitary landfill odor control

Personal Care

- Hair care (permanents, straighteners, conditioners, dyes)
- Underarm deodorants (sticks, lotions, powders, antiperspirants)
- Foot products (powders, insoles)



TYPICAL PROPERTIES

Appearance	Amber Liquid
pH, 1% aqueous	6.5
% Moisture, KF	63.0

TOXICOLOGICAL

Eye Irritation

HET-CAM: Hen's Egg Test Chorioallantoic Membrane: @ 1.5%, scored **10** (slight irritation)

Acute Skin Irritation

48 Hour Occlusive skin patch test (5%), scored **zero** (no visible skin reaction)

Cola[®]Quat SME is "Derived Natural" with a Natural Origin Index of 0.63 in accordance with ISO 16128 guideline.

FORMULATION

Deodorizing Spray No. 5003
Fragranced, aqueous deodorizing spray that can be applied in a variety of household settings

INGREDIENT	%
1 Water	qs to 100.00
2 Cola[®]Quat SME / Soyethyl Morpholinium Ethosulfate	1.00
3 Fragrance	0.50
4 Poly Suga[®]Mulse D9 / Sorbitan Oleate Decylglucoside Crosspolymer	6.00
5 Preservative	qs

PROCEDURE:

Combine ingredients 1-3. Heat to 40°C. Add 4, mixing until clear. Add preservative as desired.

TYPICAL PROPERTIES:

Appearance: Clear Liquid
pH: 6.0
Viscosity: 20 cP

Sensory Evaluation for Determining Deodorizing Effect

A panel study was conducted to determine the deodorizing effect of Cola®Quat SME using a sensory evaluation method. Smoke from a cigarette and acetic acid were used as sources of odor to odorize cotton cloths, which were then treated with Cola®Quat SME. The deodorizing efficacy of Cola®Quat SME was determined by the ability of each panelist to detect the difference between the odorless cloth and the odorous cloth, as well as the difference in degree of odor when present.

Methods

The deodorizing effect of Cola®Quat SME was tested on two separate sources of odor, cigarette smoke and acetic acid, that were introduced to a cotton cloth material. In the former, 30 mL of smoke generated from a top brand cigarette was injected into six 10" x 11" polyethylene bags containing single 11" x 11" cotton cloths and sealed for 24 hours. Similarly, in the latter, 0.06 g of acetic acid was applied to six 11" x 11" cotton cloths. Each cloth was then sealed in a 10" x 11" polyethylene bag for 24 hours.

After 24 hours, all cloths were removed from their sealed bags. A Deodorizing Spray was prepared by diluting 2% Cola®Quat SME in DI water. One cloth from each source of odor was left untreated. The remaining cloths were treated with varying amounts of Cola®Quat SME, ranging from 0.05% to 0.5%, by evenly spraying the cloths with the appropriate amount of Deodorizing Spray. The cloths were allowed to dry for 20 minutes before evaluation. 10 panelists were asked to smell the cloths and rate the degree of odor on a scale of 0 to 10 (see below). In each case, the panelists were first asked to smell the cloth that had not been treated with Cola®Quat SME and consider it to represent a 10 on the odor scale for Strong Odor. They were then asked to smell the cloths treated with Cola®Quat SME and rate them accordingly.

Odor Scale

Perceived Odor	None		Weak			Distinct		Strong		Very Strong	
Rating	0	1	2	3	4	5	6	7	8	9	10

- Ten out of ten panelists detected a reduction in odor after Cola®Quat SME was applied.
- Under the conditions of the study, Cola®Quat SME was determined to be an efficacious product for neutralizing malodors.

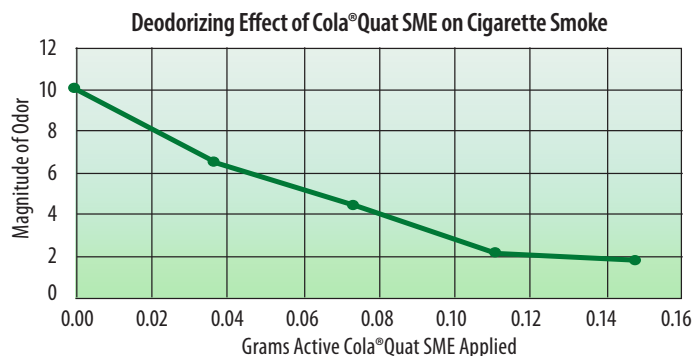
Readily biodegradable per OECD 301 methods. This product meets the criteria for a surfactant under the EU Detergents Regulation (EC) 648/2004.

STORAGE / HANDLING

should be stored in sealed containers at temperatures not exceeding 120°F (49°C). Shipped in 55 gallon poly drums (net weight 419 lb/190 kg). Typical shelf life is 24 months from date of manufacture. Safety Data Sheets may be found at www.colonialchem.com.

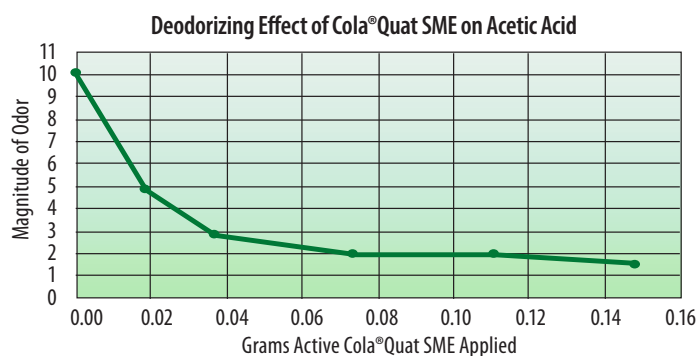
Cigarette Smoke Test Results

Deodorizing Spray (g)	Cola®Quat SME Applied			Panelist Rating of Final Odor										
	grams	grams Active	Initial Odor	Avg	1	2	3	4	5	6	7	8	9	10
0.0	0.0	0.000	10	10										
5.0	0.1	0.037	10	7	7	6	5	8	8	8	6	6	4	7
10.0	0.2	0.074	10	4	3	2	1	6	6	5	6	5	6	4
15.0	0.3	0.111	10	2	1	1	1	2	5	3	5	0	1	2
20.0	0.4	0.148	10	2	2	1	2	3	2	1	2	0	2	3
25.0	0.5	0.185	10	2	2	2	1	1	2	1	2	1	2	3



Acetic Acid Test Results

Deodorizing Spray (g)	Cola®Quat SME Applied			Panelist Rating of Final Odor										
	grams	grams Active	Initial Odor	Avg	1	2	3	4	5	6	7	8	9	10
0.0	0.0	0.000	10	10										
2.5	0.05	0.019	10	5	8	6	3	2	2	10	6	5	2	4
5.0	0.10	0.037	10	3	3	2	1	1	2	5	6	2	4	2
10.0	0.20	0.074	10	2	1	1	1	0	2	2	4	3	4	1
15.0	0.30	0.111	10	2	1	1	0	0	2	3	3	2	6	1
20.0	0.40	0.148	10	2	0	2	0	1	2	3	2	1	2	3



Conclusion

Cola®Quat SME is an efficacious product for neutralizing malodors.



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Innovative Specialty Surfactants
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