



Ready to clean,
Ready to shine.

Vehicle Care Formulary Guide

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Colonial
Chemical



Complete Vehicle Care Performance

Colonial Chemical offers a complete line of industry-leading specialty chemical components for vehicle care. Our innovative technologies enable formulators to develop advanced products for degreasing, cleaning, conditioning, rinsing, emulsifying, drying, shining, and protecting most exterior and interior surfaces.

As a valuable partner for producers of vehicle care products, Colonial Chemical is committed to bringing its expertise and experience in transportation cleaning formulation. Contact us for complete product information, starting formulary, samples, and technical assistance at any phase in your product development.

Included in this guide are formulations for:

- [Vehicle Drying and Protection](#)
- [Presoaks and Degreasers](#)
- [Shampoos and Conditioners](#)
- [Exterior and Interior Care](#)



Vehicle Drying and Protection

In professional car washes, drying agents usually contain mineral seal oil or other kinds of hydrophobes, which are emulsified into water by emulsifiers to form clear micro-emulsions.

Upon being applied to vehicle surface through spraying arches or spray guns, emulsifiers will bring mineral seal oil to the vehicle surface to form a water repelling film that breaks water into water beads called “beading” or water sheet called “sheeting”. High beading action would show the “waxing effect” from rapid water breaking. Fine beads of water sticking to the vehicle surface by static are hard to remove with even strong blowers. Conversely, high “sheeting” action will not break water effectively, and also results in less drying due to its slow running down from the vehicle surface. Optimal drying comes from balanced beading and sheeting action to result in maximum water removal.

The emulsifiers Cola®Mulse CS400 and CS450 from Colonial Chemical represents the best drying performance in the industry. While emulsifier Cola®Mulse CS300 remains on the list to meet the needs of some formulators who still prefer “high beading” appearance at the sacrifice of drying, Cola®Mulse CS205 can be used as co-emulsifier to CS300 to somewhat improve drying performance.

Cola®Dry N4 and N3 are pre-formulated 100% active drying agents for direct dilution, which are suitable for formulators who would prefer not to go through the challenges in formulating stable microemulsions and simultaneously try to achieve good drying performance.

Cola®Dry DAB is a great wax additive to be added into drying agent formulas to improve drying, shine, and protection of vehicle surface in clear coat protectants, sealer wax, tricolor wax, total body protectants, as well as “hot lava waxes” that have become popular. Cola®Dry DAB is also useful in applications such as wash-n-shine, waterless car wash, windshield treatment for water repellency, and other hard surface protection.

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Vehicle Drying and Protection

High Efficiency Drying Agents for Professional Car Washes

Components	50% WT	45% WT	40% WT	35% WT	30% WT	25% WT
Cola®Mulse CS400	22.3	20.1	17.9	15.6	13.4	11.1
Mineral Seal Oil*	24.2	21.8	19.3	16.9	14.5	12.1
Glycol EB	3.5	3.1	2.8	2.5	2.1	1.8
Water	50.0	55.0	60.0	65.0	70.0	75.0
Dilution at use	1000:1	900:1	800:1	700:1	600:1	500:1

Mixing Instruction: Add MSO, CS400, and EB together and mix well, then add water slowly while mixing. Mix additional 20-30 minutes after water addition. Note: It is normal that the mixture may take a few minutes (5-15 min) to clear up after addition of water.

*MSO: Calumet 600 and Conosol 260 are preferred mineral seal oil. The formulas may need adjustment with other brand of MSO

Ultra High Concentration Drying Agents for Straight Dilution

Components	100% WT	95% WT	90% WT	85% WT	80% WT	70% WT	60% WT	50% WT
Cola®Mulse CS450	46.0	43.7	41.4	39.1	36.8	32.2	27.6	23.0
Mineral Seal Oil*	44.0	41.8	39.6	37.4	35.2	30.8	26.4	22.0
Glycol EB	10.0	9.5	9.0	8.5	8.0	7.0	6.0	5.0
Water	0.0	5.0	10.0	15.0	20.0	30.0	40.0	50.0
Dilution at use	2000:1	1900:1	1800:1	1700:1	1600:1	1400:1	1200:1	1000:1

Mixing Instruction: Add MSO, CS450, and EB together and mix well, then add water slowly while mixing. Mix additional 20-30 minutes after water addition. Note: It is normal that the mixture may take a few minutes (5-15 min) to clear up after addition of water.

*MSO: Calumet 600 and Conosol 260 are preferred mineral seal oil. The formulas may need adjustment with other brand of MSO.

Pre-formulated Drying Agents for Straight Dilution

MSO Based Drying Agents from Cola®Dry N4

Components	Premium WT%	Regular WT%	Economy WT%
Cola®Dry N4	40	30	25
Water	60	70	75
Dilution at use	800:1	600:1	500:1

Non-MSO Based Drying Agents from Cola®Dry N3

Components	Premium WT%	Regular WT%	Economy WT%
Cola®Dry N3	50	40	25
Water	50	60	75
Dilution at use	1000:1	800:1	500:1

Drying Agents and Protectants Formulas

Clear Coat Protectant #8022	WT%
Cola®Mulse CS400	12.40
Mineral Seal Oil	14.50
Glycol EB	2.10
Cola®Dry DAB	2.00
Water	qs to 100
Appearance: Amber liquid pH: 6.0 – 7.0 Viscosity: 20 cP Dilution at use: 500:1	

Premium Sealer Wax #8023	WT%
Cola®Mulse CS400	12.1
Mineral Seal Oil	13.7
Glycol EB	2.0
Cola®Dry DAB	3.8
Water	qs to 100
Appearance: Amber liquid pH: 6.0 – 7.0 Viscosity: 20 cP Dilution at use: 500:1	

Total Body Protectant #8024	WT%
Cola®Mulse CS400	10.0
Mineral Seal Oil	10.0
Glycol EB	3.1
Cola®Dry DAB	5.0
Water	qs to 100
Appearance: Amber liquid pH: 6.0 – 6.5 Viscosity: 20 cP Dilution at use: 1 oz./car	

Tricolor Foaming Wax #8025	WT%
Cola®Mulse CS400	16.8
Mineral Seal Oil	9.2
Cola®Teric COAB	13.9
Cola®Dry DAB	4.6
Water & Dye	qs to 100
Appearance: Amber liquid pH: 5.5 – 6.0 Viscosity: 20 cP Dilution at use: 250:1	



Presoaking and Degreasing

Transportation cleaning deals not only in heavy oily grease in areas like engine and wheel, but also challenging soils like bird drops, tree saps, dead bugs, clay, rust, brake dust, and acid rain deposits. To effectively clean these soils, both alkaline cleaners and acid cleaners are needed, especially in touch-free car washes which rely solely on chemical power along with high pressure water to remove all the soils. Alkaline cleaners are needed to remove most organic soils such as industrial greases, lubricants, and motor oils, while acid cleaners are required to remove many inorganic soils such as rust, brake dust, and many minerals and clays.

Cola®Terge 102 and 226 are high-performance blends designed for rapid wetting and penetrating industrial soils on vehicles, emulsifying grease and oil, and peel and roll-off soils from substrates to be cleaned in a synergistic way. They can serve as a great replacement of APEs to improve cleaning while they're well suited for both alkaline and acidic conditions.

Cola®Quat C15 is a cationic booster to go with nonionic surfactants like Cola®Dol 173B, 900, 901, etc., to enhance degreasing of oily and tenacious soils.

Cola®Dol 173B is a blend of nonionic surfactants rendering both fast wetting and great emulsification action to remove oily soils. The cleaning efficiency can be greatly improved when combining with Cola®Quat C-15, where the latter penetrates between soils and substrates to help peel off soils from substrates.

Presoaking and Degreasing Formulas

Alkaline Presoak for Car and Truck Wash #8021	WT%
Water	qs to 100.0
Potassium Hydroxide (45%)	10.64
TKPP or Na4EDTA or NTA	4.43
Sodium Metasilicate Pentahydrate	4.43
Cola®Terge 102 or Cola®Terge 226	7.23
Cola®Teric SC	19.88
d-Limonene	1.77
Appearance: Amber liquid pH: >13 Viscosity: 20 cP Dilution at use: 100-300:1	

Acid Presoak for Car and Truck Wash #8026	WT%
Water	qs to 100.0
Phosphoric Acid (85%)	20.0
Sulfuric Acid (50%)	5.0
Glycolic Acid (40%)	2.0
Glycol EB	5.0
Cola®Terge 102	5.0
Cola®Cor 100	3.0
Appearance: Clear liquid pH: 1.0 – 1.5 Viscosity: 20 cP Dilution at use: 100-300:1	

Heavy Duty Engine Degreasers #8027	WT%
Water	qs to 100.0
Potassium Hydroxide (45%)	19.6
Sodium Metasilicate Pentahydrate	4.9
Cola®Teric HLA	11.6
Cola®Terge 102 or Cola®Terge 226	7.9
Appearance: Clear liquid pH: >13 Viscosity: 20 cP Dilution at use: 30-50:1	

Tire and Wheel Cleaning #8038	WT%
Water	qs to 100.0
Potassium Hydroxide (45%)	7.0
Sodium Metasilicate Pentahydrate	10.0
Cola®Trobe INC	8.0
Cola®Dol 173B	4.0
Cola®Quat C15	4.0
Appearance: Clear yellow liquid pH: >13 Viscosity: 20 cP Dilution at use: 30-50:1	

High Pressure Foaming Cleaner #8028	WT%
Water	qs to 100.0
Sodium Carbonate	5.0
Cola®Teric SC	30.0
Cola®Terge 102 or Cola®Terge 226	5.0
Appearance: Clear liquid pH: >10.0 – 10.5 Viscosity: 20 cP Dilution at use: 80-100:1	

Bug and Insect Remover #8035	WT%
Water	qs to 100.0
Triethanol amine	5.0
Cola®Dol 173B	10.0
Cola®Quat C15	10.0
Dowanol PnB	5.0
Appearance: Clear yellow liquid pH: >8.5 – 9.0 Viscosity: 20 cP Dilution at use: 30-50:1	

Tree Sap Cleaner #8029	WT%
Water	qs to 100.0
Ethylenediaminetetraacetic Acid (40%)	5.0
Sodium Metasilicate Pentahydrate	2.5
Diethylene Butylether	10.0
Cola®Dol 173B	4.5
Cola®Teric JBS	8.0
Appearance: Clear yellow liquid pH: >13 Viscosity: 20 cP Dilution at use: 2 oz./gal	

Car Wash Shampoos and Conditioners

Brush car washes primarily rely on friction generated when brushes contact the vehicle surface. High foam generated by anionic surfactants would help lubricate brush surface and prevent damage to vehicle surface during cleaning. Alfa olefin sulfonate (AOS) and sodium laurylether sulfate (SLES) are good foamers for such application. Amphoteric surfactants like Cola®Teric COAB help boosting and stabilizing foam, while making it easier to be rinsed off. Cola®Teric SC is a good foaming cleaner for a streak-free rinse.



Car Wash Shampoos and Conditioners Formulas

Car Wash Brush Shampoo #8016	WT%
Water	qs to 100.0
Sodium Metasilicate Pentahydrate	2.0
Ethylenediaminetetraacetic Acid (40%)	3.0
Glycol Ether EB	8.0
Colonial AOS-40	20.0
Colonial SLES-60	10.0
Cola®Teric SC	5.0
Appearance: Clear Yellow liquid pH: 13 Viscosity: 20 cP Dilution at use: 200-500:1	

Tricolor Foam Conditioner with Rinse Aid #8020	WT%
Water	qs to 100.0
Cola®Teric COAB	32.0
Cola®Quat C-15	8.0
Dye and fragrance	qs
Appearance: Clear Yellow liquid pH: 5.0 – 6.0 Viscosity: 20 cP Dilution at use: 0.5 oz per color per wash	

Hand Car Wash Formulas

Wash and Shine #8034	WT%
Water	qs to 100.0
Cola®Mulse CS400	3.0
Cola®Dry DAB	2.0
Cola®Teric SC	10.0
Cola®Dol 173B	5.0
Appearance: Clear Yellow liquid pH: 5.0 – 6.0 Viscosity: 20 cP Dilution at use: 1 to 2 ounces per gallon	

Hand Car Wash and Dry #8037	WT%
Water	qs to 100.0
Sodium Gluconate	5.0
Sodium Citrate	5.0
Ethylenediaminetetraacetic Acid (40%)	2.0
Cola®Teric SC	12.40
Cola®Terge 102	13.80
Limonene	1.80
Appearance: Clear Yellow liquid pH: 8.0 – 9.0 Viscosity: 20 cP Dilution at use: 80-100:1	

Exterior and Interior Care

Exterior and interior care of vehicles include products that help clean while exerting shine and protection on vehicle surfaces such as vinyl, paint, rubber, carpet, leather, glass and chrome. Most manufacturers recommend detergents that are specific for cleaning and finishing. These detergents not only protect your vehicle's finish but also help remove things like salt stains, brake dust and tree sap that ordinary soap may not be able to remove. They also help eliminate malodors generated from smoking, pets, and food soils. These products may also prevent rust on exposed surfaces.



Car Exterior and Interior Care Formulas

Water-Based Tire Dressing	WT%
Water	qs to 100.0
Carbopol Aqua 30	1.0
Xiemer 2-1171	40.0
Cola®Dry DAB	4.0
Triethanol amine	to pH=9
Dilution at use: Use as is	

Non-Silicone Tire Dressing	WT%
Water	qs to 100.0
Carbopol Aqua 30	1.0
Glycerin	20.0
Polypropylene Glycol 2000	15.0
Ethylene Glycol Monopropyl Ether	3.0
Cola®Mulse CS400	2.0
TEA to adjust ph to 9.0 – 9.5	qs
Dilution at use: Use as is	

Vinyl and Dash Board Cleaning and Protectant #8031	WT%
Water	qs to 100.0
Cola®Dol 173B	0.5
Cola®Dry DAB	1.0
Appearance: Clear liquid pH: 5.0 – 5.5 Viscosity: 20 cP Dilution at use: Use as is	

Premium Leather Cleaner with Protectant #8032	WT%
Water	qs to 100.0
Glycerin	20.0
Cola®Dry DAB	3.0
Cola®Dol 173B	0.5
Appearance: Clear yellow liquid pH: 5.0 – 5.5 Viscosity: 20 cP Dilution at use: Use as is	

Deodorizing Spray #5003	WT%
Water	qs to 100.0
Cola®Quat SME	1.0
Fragrance	0.5
Poly Suga®Mulse D9*	6.0
Kathon CG	0.1
Appearance: Clear liquid pH: 6.0 Viscosity: 20 cP	
* Optional component depending on solubility of fragrance	

Upholstery Cleaner #5002	WT%
Water	qs to 100.0
Cola®Mate LA-40	3.00
Colonial SCS	1.00
Sodium Citrate	2.00
Glydant Plus®	0.30
Dissolvine® GL47S	0.30
Fragrance	0.10
Appearance: Clear liquid pH: 6.0 Viscosity: 20 cP Dilution at use: 10-20:1	

Undercarriage Protectant	WT%
Water	qs to 100.0
Cola®Cor 400	0.2 – 1%
Dilution at use: 10-50:1	



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