Ready to clean,
Ready to shine.

Vehicle Care
Formulary Guide

Effective October 2024

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***

Featured Products

Cola®Dry CR-502 and **Cola®Dry CR-502 EU** are the most efficient "ceramic-like" ready-to-use sealant concentrates for direct dilution that provide long-lasting shine, high beading, and water repellency. They can also be used as MSO-free drying agents, tire dressings, and hand finishes in detailing shops

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.

Cola®Mulse CS400 and **Cola®Mulse HP500** are two emulsifiers from Colonial Chemical representing the best drying performance in the industry. While CS400 provides the best tool for experienced formulators to develop optimum drying products, HP500 offers a very "forgiving" option for most formulators to create stable microemulsions with desirable performance.

Cola®Mulse CS300 and **Cola®Mulse CS300 HF** are two emulsifiers that are widely used in emulsifying mineral seal oils and other waxes to create "high-beading" and rapid water breaking effects in vehicle drying and protection. While similar in chemistry, CS300 HF is a high-flash (non-flammable) of CS300.

Cola®Dry QS100 is a water-soluble polymeric additive that helps create a "ceramic-like" high water-beading effect in formulation. QS100 also enhances shine and color rejuvenation on painted surfaces.

Cola®Dry N4 is a preformulated 100% active drying agent for direct dilution and 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 CAV is a high performance spray-wax developed without mineral seal oil. It delivers optimal drying with balanced beading and sheeting. It helps reduce water spots, while exerting long-lasting shine and durable protection over MSO-based spray waxes.

Cola®Mulse CS400 Based Drying Agents

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

Cola®Mulse HP-500 Based Drying Agents

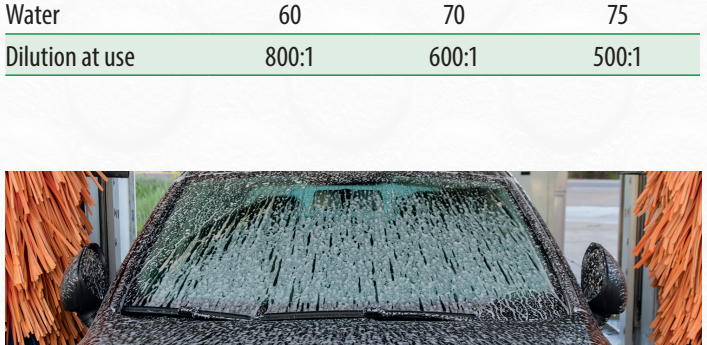
Components	100% WT	90% WT	80% WT	70% WT	60% WT	50% WT	40% WT	30% WT	20% WT
Cola®Mulse HP500	38.1	34.3	30.5	26.7	22.9	19.0	15.2	11.4	7.6
Mineral Seal Oil*	25.4	22.9	20.3	17.8	15.2	12.7	10.2	7.6	5.1
Glycol EB	36.5	32.8	29.2	25.5	21.9	18.3	14.6	11.0	7.3
Water	0.0	10.0	20.0	30.0	40.0	50.0	60.0	70.0	80.0
Dilution at use	2000:1	1800:1	1600:1	1400:1	1200:1	1000:1	800:1	600:1	400:1

Mixing Instruction: Add MSO, HP500, 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.

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



Cola®Dry CR-502 and CR-502 EU Ceramic Sealant Concentrates All-In-One Applications (via Direct Dilution or Formulation)

Applications	Applications Methods
Ceramic Sealant	Direct dilution 500:1, or 8 ml / car
Total Body Protectant	Direct Dilution 500-1000 : 1, or 4-8 ml/ car
MSO-Free Drying Agent or Clearcoat	1500-3000 : 1 with a dilution pump or 1.5-3 ml / car
Windshield Rain-X® Effect	5-10% for hand wipe, 1-2% in windshield washer
Wipe-N-Shine / Waterless Car Wash	Dilution 500-2000 to 1
Tire Dressing (auto or hand)	Use AS IS May be thickened with Hydroxy Propyl Methyl Cellulose e.g. DuPont Methocel E4M
Hand Finish	25-30%

Cola®Dry CAV as Mineral Seal Oil Free Drying Agents and Sealer Waxes (cross reference chart of concentration with MSO-based)

MSO-based drying agent, active %	100	75	50	25
Cola®Dry CAV	50	37.5	25	12.5
Dilution at use	1:2000	1:1500	1:1000	1:500

Cola®Mulse CS300 and CS300 HF as emulsifiers for Mineral Seal Oil in Drying Agents

% Active	100	75	50	25
Mineral Seal Oil	50	37.5	25	12.5
Cola®Mulse CS300 or CS300 HF	40	30	20	10
Glycol EB	10	7.5	5.0	2.5
Water	0	25	50	75
Dilution at use	1:2000	1:1500	1:1000	1:500

Optimal drying comes from balanced beading and sheeting action to result in maximum water removal.

Clear Coat Protectant #8022	WT%
Cola®Mulse CS400	12.4
Mineral Seal Oil	14.5
Glycol EB	2.1
Cola®Dry DAB	2.0
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 #8039	WT%
Cola®Mulse CS400	12.0
Mineral Seal Oil	10.0
Glycol EB	3.5
Cola®Dry Graphene	8.5
Water	qs to 100

Appearance: Black liquid pH: 5.0 – 6.0 Viscosity: < 20 cP Dilution at use: 1 oz./car

Ceramic Sealant and Protectant #8025	WT%
Cola®Dry CR-502	50.0
Water	50.0
Dye & Fragrance	qs to 100

Dilution: 250 – 500:1

Do-It-Yourself Wash-N-Shine	WT%
Water	qs to 100
Sodium Gluconate	1.0
Cola®Teric SC	10.0
Cola®Mulse CS400	5.0
Cola®Dry DAB	2.0

Dilution at use: 1 oz. per gallon

Tri-Color Conditioner	WT%
Water	qs to 100
Cola®Teric COAB	32.0
Cola®Quat C15	5.0
Cola®Dry DAB	3.0
Dye, Fragrance	qs

Dilution at use: 1/2 – 2/3 oz. per vehicle per color

Acid Tri-Color Foam Conditioner	WT%
Water	qs to 100
Cola®Quat C15	30.0
Cola®Dry DAB	5.0

Dilution at use: 1/2 – 2/3 oz. per vehicle per color

Waterless Car Wash	WT%
Water	qs to 100
Cola®Dry CR-502	5.0
Cola®Dol DG13	8.0

Dilution at use: 1 oz. per gallon

Wipe and Shine	WT%
Water	qs to 100
Cola®Dry CR-502	20.0

Dilution at use: 10 – 50:1

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 is a high-performance blend 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. Cola®Terge 102 can serve as a great replacement of APEs to improve cleaning and is 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.

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	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
Phospheric 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	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®Teric SC	8.0
Cola®Terge 102	8.0

Appearance: Clear yellow liquid pH: >13 Viscosity: 20 cP Dilution at use: 30-50:1

High Pressure Alkaline Foaming Cleaner #8028	WT%
Water	qs to 100.0
Sodium Carbonate	5.0
Cola®Teric SC	30.0
Cola®Terge 102	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	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 2CM	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 high-foaming cleaner and hydrotrope. It can be utilized in foam spray-cleaning, DIY car washes, truck washes, tri-color foam conditioners, and foaming waxes. Cola®Teric SC is stable in caustic solutions without additional hydrotropes.

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

High Pressure Foam Cleaner #8020	WT%
Water	qs to 100.0
Cola®Teric SC	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

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.

Water-Based Tire Dressing	WT%
Water	qs to 100.0
Carbopol Aqua 30	1.0
Xiemeter 2-1171	40.0
Cola®Dry DAB	4.0
Triethanol amine	to pH=9

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
Kathon CG	0.1

Appearance: Clear liquid pH: 6.0 Viscosity: 20 cP
* Optional component depending on solubility of fragrance

Carpet Cleaner for Vacuum #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 against Road Salt	WT%
Water	80.0
Cola®Cor 100	20.0

Dilution at use: 50-100:1

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