

SECTION "E"

CHEMICALS SPECIFICATIONS

(Apply to Sections B & C)

University initials: _____

Tenderer initials: _____

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APPEL D'OFFRES
CALL FOR TENDERS No. 2010056*SECTION "E" (continued)***CHEMICALS****GENERAL REQUIREMENTS**

The Contractor shall furnish all chemicals necessary to perform the work in accordance with the Contract Documents.

The Contractor shall use those brands and types or the equivalent of chemicals specified on the "LIST OF APPROVED CHEMICALS" unless he has obtained a written permission to change in accordance with the following procedure:

1. The Contractor shall submit a written request to the Contract Administrator.
2. This written request shall identify the product use, the brand name, the manufacturer's complete name, the address and telephone number.
3. The Contractor shall attach a product brochure, and chemical specifications to the written request. The Contractor shall provide the Contract Administrator with a container of the chemical to be used for on-site evaluation.
4. At the sole discretion of the Contract Administrator, the Contractor shall be required to submit the proposed chemical to an independent testing laboratory selected by the Contract Administrator for evaluation and comparison to the chemicals defined on the "LIST OF APPROVED CHEMICALS".
5. If the alternate brand performs as well or better than the chemical brands included on the "LIST OF APPROVED CHEMICALS" as determined by an independent Testing Laboratory and on-site evaluation as determined by the Contract Administrator, and causes no interference with the operational activities of the University, or damage to the facilities, and is in the best interest of the University, then the chemical shall be approved for use in the performance of the work.
6. Any additional costs associated with testing or using an alternate brand or chemical or with changing from one brand to another brand will be borne by the Contractor, if the test or change was requested by the Contractor.
7. It is required that all floor care products be purchased from the same manufacturer. Floor sealers, finishes, strippers, spray-buffs, and restorers are formulated to be compatible. If products from different manufacturers are provided, there is a chance that critical factors such as performance, durability, and slip resistance may be affected. Also, compatibility of products provides for standardization of procedures.

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SECTION "E" (continued)

CHEMICALS - continued

The Contractor shall maintain on site a copy of a Material Safety Data Sheet, or equivalent, and proper labels for all chemicals used in the performance of the work and shall provide the CONTRACT ADMINISTRATOR with a copy.

CONTAINERS

All chemical concentrates shall be issued to janitorial workers in their original containers and shall retain the original labels that must define the instructions for use of the chemicals and any pertinent warnings and safety instructions.

All chemicals used must have manufacturer's quality control batch numbers included on cases or containers.

Chemical solutions may be issued to janitorial workers in clearly labeled secondary containers. These containers should be labeled with the container contents such as "Germicide Detergent" and the worker assignment number such as ASR-1".

PROHIBITED CHEMICALS

No ammonia, chlorine bleach, powdered cleanser or any other type of chemical not included on the "LIST OF APPROVED CHEMICALS" shall be used in the performance of this work without the written approval of the Contract Administrator.

CHEMICAL TYPES AND RECOMMENDED PACKAGING

As a minimum, the Contractor shall provide the following chemicals for Routine Work:

Acid-type bowl cleaner	1 qt. squeezable container with flip-top cap
Carpet shampoo	1 gallon container of concentrate
Carpet stain remover	1 gallon container of concentrate
Degreaser	1 gallon container of concentrate
Dust mop dressing	1 gallon container
Floor finishes	5 or 6 gallon containers
Floor finish remover	5 or 6 gallon containers of concentrate
Floor sealer	5 or 6 gallon containers of concentrate
Germicidal detergent	1 gallon container of concentrate

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SECTION "E" (continued)

CHEMICALS - continued

Glass cleaner	1 gallon container
Graffiti remover	Pressurized, aerosol container
Lotion-type cleanser	1 qt. squeezable container with flip-top cap
Neutral detergent	1 gallon container of concentrate
Soap and scum remover	1 gallon container of concentrate
Spray-buff solution	1 gallon container
Stainless steel cleaner & polish	1 gallon container of concentrate

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SECTION "E" (continued)**CHEMICALS - continued****LIST OF KNOWN CHEMICALS APPROVED BY THE UNIVERSITY'S ADMINISTRATOR****Acid-Type Bowl Cleaner**

1. Dustbane Products - Blue-Lite
2. Michael's - Emulsion Bowl Cleaner
3. Ranger Sanitary Product Ltd. - Ranger
4. Switch - Majestic

Carpet Shampoo

1. Bryn - Outlaw
2. Dustbane Products - Water Extraction Carpet Cleaner
3. Michael's - Spot off, Carpet Stain Remover
4. Ranger - Super 21 Carpet Shampoo

Carpet Stain Remover

1. Chemspec - Spot Lifter
2. Dustbane - 2 in 1 spotter
3. Michael's - Spot Off
4. Ranger - Spur 100 Carpet Spot

Water-Based Degreaser

1. Dustbane Products - Surface Kleen Plus
2. Johnson - Stride
3. Laroche Sanitary Products Ltd. - Surpass
4. Michael's - Hard Hat

Dust Mop Treatment

1. Dustbane Products - Hy 60
2. Michael's - M-220

NOTE: A substitute must be approved by the University's Administrator.

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APPEL D'OFFRES
CALL FOR TENDERS No. **2010056****SECTION "E" (continued)****CHEMICALS - continued****LIST OF KNOWN CHEMICALS APPROVED BY THE UNIVERSITY'S ADMINISTRATOR -
(continued)****Glass Cleaner**

1. Dustbane Products - Expo
2. Gilco - Horizon
3. Michael's - Glass Cleaner
4. Ranger Sanitary Products Ltd.

Graffiti Remover

1. 3M Company - Trouble Shooter
2. Ranger Son Products Ltd. - Vandalism Mark Remover

Lotion-Type Cleanser

1. Michael's - Paste Cleaner
2. Dustbane Products - Aqua Scrub
3. Johnson - Bon ami
4. Wyant - W-400-Disinfectant

Neutral Detergent

1. Dustbane Product - General Purpose Detergent 2-GP-107M
2. Laroche San Products - Surpass

Soap scum Remover

1. Dustbane Product - Blue-Lite

Stainless Steel Cleaner

1. Ranger Sanitary Products Ltd. - Majestic
2. Dustbane Products - Dustbane Stainless Steel Polish
3. Can Industry - ZEP

Quaternary Ammonium Germicidal Detergent

1. Dustbane Product - Quavo Plus
2. Michael's - G-400
3. Ranger San Products Ltd. - Pine Soap

NOTE: A substitute must be approved by the University's Administrator.

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SECTION "E" (continued)**CHEMICALS - continued****LIST OF KNOWN CHEMICALS APPROVED BY THE UNIVERSITY'S ADMINISTRATOR -
(continued)****Floor Care Products**

The selected products for the floor care system must be of the same brand

Dustbane Products

1. Floor Stripper – Outstrip
2. Floor Sealer – New Formula Guard
3. Floor finish – Defence
4. Spray Buff Solution – Cross link II

Johnson

1. Floor Stripper – Regard
2. Floor Sealer – Over and Under
3. Floor Finish – Complete
4. Spray Buff Solution – Revive – Strongly approved for our floors at University

Michael's

1. Floor Stripper – Rip-Off
2. Floor Sealer – 911 Sealer
3. Floor Finish – F-888 Floor Finish
4. Spray Buff Solution – Floor Maintainer

Wyant Inc.

1. Floor Stripper – Super High Speed
2. Floor Sealer – W460 Sealer
3. Floor Finish – Super 15 Floor Finish
4. Spray Buff Solution – Super 15

NOTE: A substitute must be approved by the University's Administrator.

SECTION "E" (continued)**CHEMICALS - continued****SPECIFICATIONS****Specification for Acid-Type Bowl Cleaner****SCOPE:**

This specification covers an acid-type bowl cleaner for descaling and disinfecting toilet bowls and urinals.

TYPE:

Liquid, ready-to-use.

REQUIREMENTS:

1. The compound shall be a stable liquid and not lose effectiveness or otherwise deteriorate when stored in a closed container at room temperature for a period of one year.
2. Total acid ingredients shall be not less than 22% (calculated by weight as hydrogen chloride); these shall include optional combinations of acids such as hydrogen chloride (not more than 9% by weight), phosphoric, sulfuric, citric and glycolic or other organic acids.
3. Product must be packaged in a 32-ounce container with flip-open cap.
4. Use of two ounces must be sufficient to remove soil, rust, lime scale and urine incrustations as well as disinfect and deodorize under normal conditions.
5. Product must not be detrimental to china and vitreous surfaces at full strength. Product must not be detrimental to glazed and ceramic tile or stainless steel and must not interfere with the digestive operation in septic tank systems. The product must be non-fuming.
6. The product shall contain an inhibitor to prevent the discoloration and deterioration of metal surfaces.
7. The product shall bear an approved EPA registered label and number.
8. The product shall contain a stable organic synthetic detergent, of the non-ionic type, to increase the cleaning efficiency of the product.

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SECTION "E" (continued)**CHEMICALS - continued****SPECIFICATIONS - continued****Specification for Carpet Shampoo Concentrate****SCOPE:**

1. The product shall be a carpet shampoo containing synthetic organic detergents, specially formulated solvents and brighteners.
2. The product shall be of one type only -- LIQUID. It shall be all synthetic, odorless in use and shall not contain soap, acids, or harsh abrasives.

REQUIREMENTS:

1. The product shall be an aqueous liquid.
2. The product shall be suitable for use on all fibers including synthetics such as acrylics, nylon, polyester, rayon, cotton, and wool.
3. The product shall not produce objectionable fumes in use: leave lingering odors or tacky residues on the carpeting being cleaned.
4. The product shall be clear and stable and be equally effective in hard or soft water.
5. The product shall have a pH above 8.0 when determined by standard pH method.
6. The product shall have a minimum non-volatile content of ten percent (10%) at 105°C.
7. The product shall contain a blend of synthetic organic detergents, solvents, sequestering agents and foam stabilizers.
8. The product when diluted as per label directions shall perform satisfactorily in the various carpet shampoo machines.

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*SECTION "E" (continued)***CHEMICALS - continued****SPECIFICATIONS - continued****Specification for Carpet Spotting System****SCOPE:**

Carpet spotting covered by this specification is intended to remove oil and water-based stains including lipstick, oil, grease, coffee, ketchup, tea, wine, and shoe polish. The product should be safe for use on all colorfast, synthetic carpets. However, pretests should be performed on carpet samples before use in conspicuous areas of the facility.

REQUIREMENTS

1. The material shall be completely soluble in water.
2. The material shall have a pH of 8.1 - 8.7.
3. The material shall have a boiling point in excess of 100°F.
4. The material shall have a flash point of 126°F (TOC).
5. The material shall be 9.0 - 9.8% non-volatile.
6. The material shall have a mild odor.

Note:

The material should **never** be used on wool carpet.

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*SECTION "E" (continued)***CHEMICALS - continued****SPECIFICATIONS - continued****Specification for Degreaser for Fatty Soils****SCOPE:**

Degreaser covered by this specification is intended primarily for use in food preparation areas to degrease surfaces and to help remove grease from washable fabrics. It can also be used to remove body oils and soap scum from showers.

REQUIREMENTS:

1. The compound shall be a blend of surfactants which are high in grease-cutting properties.
2. The compound shall be suited for use with a pressure washer in order to generate thick, clinging foam that is easily rinsed with clear water.
3. The compound shall be non-flammable.
4. The compound shall contain no phosphates.
5. The compound shall be non-corrosive.

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SECTION "E" (continued)

CHEMICALS - continued

SPECIFICATIONS - continued

Specification for Degreaser for Petroleum Soils

SCOPE:

Degreaser covered by this specification is intended primarily for removing petroleum oil or grease.

REQUIREMENTS:

1. The compound shall be a high alkaline formula which is effective in cutting petroleum-based oil and grease.
2. The pH value shall be not less than 12.5.
3. The compound shall be non-flammable.
4. The compound shall be non-butyl and non-caustic.
5. The compound shall be non-corrosive.
6. The compound shall be free rinsing and compatible with waste water treatment systems.

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SECTION "E" (continued)

CHEMICALS - continued

SPECIFICATIONS - continued

Specification for Dust Mop Treatment

SCOPE:

Dust mop treatment covered by this specification is intended for use on all vinyl tile, terrazzo, and sealed concrete floors.

REQUIREMENTS:

1. The material shall attract and hold dirt during the sweeping procedure.
2. The material shall leave no oily residue on floors.
3. The material shall not cause any deleterious effects on floor when applied properly.
4. The material shall be clear with slight odor.
5. The material shall have a minimum flashpoint of 151°F by the Pensky-Martens closed-cup method.

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*SECTION "E" (continued)***CHEMICALS - continued****SPECIFICATIONS - continued****Specification for Metal-Link Polymer Floor Finish****SCOPE:**

This specification covers a self-polishing, slip resistant, all synthetic water emulsion floor finish intended for use on, and not be detrimental to sealed or finished wood surfaces, asphalt tile, linoleum, rubber, vinyl composition, painted concrete, terrazzo and cement surfaces. The product is to be used without dilution. Acid sensitive emulsions are excluded.

REQUIREMENTS:

1. The finish shall consist of all synthetic components. It shall contain no natural waxes.
2. The finish shall contain a minimum of 15% non-volatile material when determined in accordance with ASTM method D-1289-64.
3. The finish shall consist of polyacrylic and polyethylene components. Polymers shall be metal linked to provide excellent detergent resistance.
4. The product shall be safe for use on all kinds of floors including asphalt, vinyl, linoleum, terrazzo, marble, sealed wood, cork, rubber, and other composition tile surfaces.
5. The product shall produce a colorless, non-slip, water resistant coating having a very high gloss.
6. The finish shall be recoatable within 30 minutes after prior coat has dried. Second coat shall not whiten nor lift the first coat -- it shall produce enhanced gloss.
7. The product shall resist scuffing, powdering, and scratching under traffic to a satisfactory degree and shall respond to buffing.
8. The finish shall level well without streaking or puddling when applied with mop or lambs wool applicator or when tested according to ASTM method D-1436-56.

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SECTION "E" (continued)**CHEMICALS - continued****SPECIFICATIONS - continued****Specification for Metal-Link Polymer Floor Finish - continued**

9. The finish shall resist wet cleaning with alkaline detergents without being removed from the floor and without destroying gloss. However, it shall be readily removable by industrial and institutional wax strippers. Removability properties may be tested in accordance with ASTM method D-1792-66.
10. The product shall not be acid sensitive, and shall resist acidic cleaners and strippers, including acidic soft drinks and fruit juices.
11. The finish shall be non-yellowing on the floor and shall be milk white in the original container, rather than tan.
12. The finish shall have a coefficient of static friction on the floor greater than 0.50 when measured by the ASTM method D-2047-69, and accordingly, be considered safe.
13. The finish shall be film-forming at usual temperatures and shall produce no powdering and no hazing.
14. The finish shall be completely waterproof within twelve (12) hours after application.
15. The finish shall be free from objectionable odor and must not develop an offensive odor upon storage in the original, unopened container.

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SECTION "E" (continued)**CHEMICALS - continued****SPECIFICATIONS - continued****Specification for Water Emulsion-Type Floor Finish Remover****SCOPE:**

1. This specification covers commercial finish remover for use in stripping water emulsion floor finish (including the metal-link polymers) from vinyl, rubber, asphalt, and other composition floor surfaces. Also for use as a heavy-duty cleaner for ceramic and conductive floors.
2. The compound shall be a liquid of one grade only.

REQUIREMENTS:

1. The compound shall be a homogeneous, highly concentrated free-flowing liquid so formulated that it may be diluted with clear water. It shall be composed of synthetic detergents, alkaline builders and sequestering agents. It shall not cause skin irritations when used in accordance with directions.
2. The compound in use concentrations shall be free rinsing and free from any odor which might be objectionable under conditions of use.
3. The compound shall not contain any fatty acid soaps.
4. The compound shall be stable and not lose its original effectiveness or otherwise deteriorate when stored for nine months in a closed shipping container at room temperature.
5. The non-volatile content shall not be less than 6.5% at 105°C.
6. The pH value of a 1.0% by weight solution shall not be more than 12.0 when rested by standard pH meter.
7. The compound shall be completely miscible with tap water in all proportions. It shall be stable and clear between a temperature range of 32°F and 100°C.
8. The floor wax removal compound shall remove 95% of a wax film as determined by instrumental measurement, in which the reflectance of a light-colored, unwaxed standard linoleum panel is compared with that of a panel which has been waxed with a standard dyed water emulsion wax and then stripped; measurement is made on a Hunter Multi-Purpose Reflectometer as described in paragraph 4.4.6 of Federal Specification PR-20 lb.
9. The product shall remove grease, oils, waxes, gums, dirt and hard-to-remove soils from all recommended surfaces when used as directed.

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SECTION "E" (continued)**CHEMICALS - continued****SPECIFICATIONS - continued****Specification for Water Emulsion-Type Floor Sealer****SCOPE:**

Water emulsion-type floor sealer covered by this specification is a water emulsion of polymers for use as a pre-coat on resilient floors, both porous and non-porous, and on non-resilient floors, such as concrete and terrazzo.

REQUIREMENTS:

1. **Non-Volatile Total Solids:** Shall not be less than 15.6%.
2. **Stability:** The product shall show no separation, gelling, creaming, or otherwise deteriorate in the container for a period of at least one year.
3. **Alkalinity:** The product shall have a pH of 9.1 measured on a Beckman pH balance at 25°C.
4. **Gloss:** The product shall have a gloss of 87 when applied to a black glass plate having a gloss of 95.
5. **Drying Time:** The product shall dry to a clear, glossy finish within 30 minutes.
6. **Slip Resistance:** Meets or exceeds the CSMA Bench Mark Standard for slip resistance as determined by ASTM D-2047-69-A, a comparable standard to that used by Underwriters Laboratory.
7. **Tackiness:** A dry film of the product shall not be tacky when tested 4 hours after application.
8. **Deleterious Effect on floor:** The product when applied to resilient or non-resilient floors shall not show effects such as whitening, discoloration, or in any way be injurious to the floor surface.
9. **Water Resistance:** Shall not be affected by 24 hours contact with water.
10. **Removability:** The product shall be completely removed using a nylon abrasive pad and a good floor finish remover.

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*SECTION "E" (continued)***CHEMICALS - continued****SPECIFICATIONS - continued****Specification for Water Emulsion-Type Floor Sealer - Continued**

11. The product shall have a specific gravity of Min. 1.025 to Max. 1.035 when measured by a Westphal Gravity Balance at 25°C.
12. The product shall contain no copper or magnesium except for trace amounts found in the water.
13. The product shall have a clean-smelling, ammoniacal-type scent with no objectionable odors.
14. **Flash Point:** The product shall exhibit no measurable Flash Point when the Cleveland Closed Cup or Tagliabue Cup Flash Test Apparatus is employed.
15. The product shall have a viscosity of Min. (3) to Max. (5) Centipoises, when measured by the Brookfield Viscosity Meter at 25°C.
16. The product shall be free from non-aqueous solvents, such as hydrocarbons, ketones, esters, pine oil, alcohol, etc.

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SECTION "E" (continued)**CHEMICALS - continued****SPECIFICATIONS - continued****Specification for Quaternary Ammonium Germicidal Detergent****SCOPE:**

This is a specification for one type of synthetic detergent and germicide compound designed for general cleaning and disinfecting in one operation.

TYPE:

Liquid, quaternary ammonium compound.

REQUIREMENTS:

1. **Chemical Properties:** The product shall be a blend of synthetic organic detergents, inorganic alkaline builders, water-softening agents, and synthetic quaternary ammonium germicide. The product shall not contain any soap, mercury compounds, phenols, free chlorine, peroxide, formaldehyde, or materials which release such compounds when diluted according to directions. The germicidal agent shall be quaternary ammonium compound. The material shall be biodegradable.
2. **Antimicrobial Requirements:** The product shall have a minimum phenol coefficient of 10.0 against salmonella typhosa and staphylococcus aureus by the A.O.A.C. method. The product shall pass the official one hundred and twenty-eight (1-128) dilution. The product shall kill pseudomonas aeruginosa at a one to one hundred and twenty-eight (1-128) dilution and must be effective against both gram positive and gram negative.
3. **Odors:** A one to one hundred and twenty-eight (1-128) dilution of the product in distilled water, shall be substantially odorless, and no odor shall result from contact with surfaces cleaned.
4. **Color:** The color of the product shall be optional.
5. **Hard Water Tolerance:** The product shall meet all other requirements of the specifications in water up to and including 750 p.p.m. of hardness.

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*SECTION "E" (continued)***CHEMICALS - continued****SPECIFICATIONS - continued****Specification for Quaternary Ammonium Germicidal Detergent - continued**

6. **Cleaning Efficiency:** A one to one hundred and twenty-eight (1-128) dilution of the product shall exhibit a cleaning efficiency of not less than 80% when tested as described in paragraph 4.4.6 of Federal Specification PC-431a. In solution the product shall provide adequate but not excessive suds.
7. **Labeling:** The affixed approved label shall bear the EPA registration number confirming that the product has been approved by the EPA for use in federally inspected meat packing and poultry processing establishments. The product must be acceptable for use in medical and non-medical facilities. Each container of the product must bear a label which defines the contents, instructions for use, and any hazard warnings as prescribed by current OSHA regulations.
8. **Volatility:** The non-volatile content of the product when measured at 105°C shall be a 12.0% minimum weight.
9. **EPA Approval:** The container label must state that the product has been approved by the Environmental Protection Agency for use as a non-misting stream.

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SECTION "E" (continued)**CHEMICALS - continued****SPECIFICATIONS - continued****Specification for Glass Cleaner****SCOPE:**

Liquid glass cleaner covered by this specification is intended primarily for use on windows, mirrors, and other glass surfaces.

REQUIREMENTS:

1. The compound shall be a blend of synthetic organic detergents, alcohols, solvents, and germicidal components; it shall not contain any perfume, ammonia or inorganic alkalies.
2. **Cleaning efficiency** -- when the compound is properly applied to glass surfaces and polished, it shall leave the surface free from dust, grime, and ordinary soil material.
3. **Flash point** -- the flash point of the liquid shall be not less than 27°C. (80°F.)
4. **pH Value** -- the pH value of the liquid shall be not less than 7.0 not more than 9.0 at 25°C.

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SECTION "E" (continued)

CHEMICALS - continued

SPECIFICATIONS - continued

Specification for Graffiti Remover

SCOPE:

Graffiti remover covered by this specification is intended primarily for removing vandalism marks from washable surfaces.

REQUIREMENTS:

1. The product shall be a liquid blend of surfactants and solvents designed to remove marks made with felt tip pens, ballpoint pens, crayon, pencil and lipstick.
2. The product shall be suitable for use on most painted surfaces.
3. The product shall contain no aromatic solvents.
4. The product shall be completely soluble in water.

CAUTION: Graffiti removers may have a deleterious effect on certain paints, wallpapers and other surfaces. Always test in an inconspicuous place before using.

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SECTION "E" (continued)**CHEMICALS - continued****SPECIFICATIONS - continued****Specifications for Lotion Cleanser****SCOPE:**

This specification covers a lotion-type abrasive disinfectant cleanser for the cleaning of porcelain surfaces and for general maintenance use.

REQUIREMENTS:

1. The cleanser shall be made from high quality soap, abrasives, and disinfectant agents, uniformly mixed. Small amounts of other ingredients may be added to improve the quality of the cleanser.
2. **Composition:**
 - The moisture content shall not exceed 55%.
 - Anhydrous synthetic detergent content - 5% minimum to 10% maximum.
 - Abrasive content shall not be less than 30%.
 - Fineness of insoluble siliceous matter - 1% maximum retained on #100 U. S. Sieve.
 - pH measured by standard pH meter method shall be between seven and eight.
3. Product shall not separate when stored at 50°C for seven days.
4. Product shall be packaged in a one quart plastic container with flip top cap.

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SECTION "E" (continued)**CHEMICALS - continued****SPECIFICATIONS - continued****Specification for Concentrated Neutral Detergent****SCOPE:**

1. This specification covers one grade of a liquid concentrated compound suitable for wet cleaning or both painted and unpainted surfaces where hard or soft water prevails.
2. An effective cleaning agent for use on wood, rubber, asphalt tile, terrazzo, marble, concrete floors and other surfaces.

REQUIREMENTS:

1. Compound shall be composed of synthetic organic detergents, sequestering, suspending and other cleaning agents.
2. The ingredients shall be assembled to form a homogeneous liquid with no more than a trace of suspended matter. It shall be biodegradable and mildly perfumed.
3. The compound shall be non-caustic and contain no soap.
4. The compound shall be completely soluble in distilled water at room temperature.
5. The compound shall contain no free alkali or ammonia.
6. The compound shall contain no free oil, abrasives or other harmful ingredients and shall not be tating to the skin.
7. The compound shall contain no more than 87% by Wright, of matter volatile at 105°C.
8. The compound shall be stable and not lose its original effectiveness or otherwise deteriorate when stored for nine months in a closed shipping container at room temperature.
9. The synthetic organic detergent shall be non-ionic or anionic type, and formulated in such a manner as to assure its being packaged in mild steel-type containers.
10. The pH of the compound shall be no higher than 9.9 (Beckman pH meter) at a 1% concentration in distilled water.

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SECTION "E" (continued)**CHEMICALS - continued****SPECIFICATIONS - continued****Specification for Concentrated Neutral Detergent - continued**

11. **Emulsification** of grease, oil and dirt -- very good.
12. **Free rinsing** - excellent.
13. **Foaming** - moderate foam with excellent stability, in the presence of grease and oil.
14. The undiluted concentrate shall have a viscosity of not less than 450 cps. or more than 850. at room temperature (20°C.).
15. **Cleaning Efficiency:** A one to one hundred and twenty-eight (1-128) dilution of the product shall exhibit a cleaning efficiency of not less than 80% when tested as described in paragraph 4.4.6 of Federal Specification PC-431a. In solution the product shall provide adequate but not excessive suds.
16. The product shall be safe for use on all surfaces when used as directed.
17. **Hard Water Tolerance:** The product shall meet all other requirements of the specifications in water up to and including 750 p.p.m of hardness.

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SECTION "E" (continued)**CHEMICALS - continued****SPECIFICATIONS - continued****Specification for Soap Scum Remover****SCOPE:**

Soap scum remover covered by this specification is intended primarily to remove body oils, soap scum, mould and mildew, hard water deposits, and rust stains in shower rooms and washrooms.

REQUIREMENTS:

1. The compound shall be a phosphoric acid based product formulated for use with foaming equipment.
2. The pH value shall be less than 2.
3. The compound shall be free rinsing, leaving no film or deposits.
4. The phosphoric acid content shall be 14.5 - 16.5%.
5. The compound shall contain a corrosion inhibitor.

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SECTION "E" (continued)**CHEMICALS - continued****SPECIFICATIONS - continued****Specification for Spray Buff Solution****SCOPE:**

These specifications cover a ready-to-use, water emulsion cleaner and polish to be used for the spray buffing of polished floors. It is intended for use on and not be detrimental to sealed or finished wood surfaces, asphalt tile, linoleum, rubber, vinyl composition, sealed concrete, and terrazzo surfaces. The product is to be used without dilution.

REQUIREMENTS:

1. The finish shall consist of all synthetic components. It shall contain no natural waxes.
2. The finish shall contain between 4.5 and 5.5% non-volatile material and have a pH of $8.3 \pm .3$.
3. It shall be suitable for cleaning and polishing floors coated with finish.
4. The product shall be safe for use on all kinds of floors including asphalt, vinyl, linoleum, terrazzo, marble, sealed wood, cork, rubber, and other composition tile surfaces.
5. The product shall be compatible with the floor finish being used.
6. The product shall produce a colorless, non-slip, water resistant coating having a very high gloss.
7. The product shall not lift nor whiten the underlying finish. It shall produce enhanced gloss.
8. The product shall resist scuffing, powdering and scratching under traffic to a satisfactory degree.
9. The product shall be used in conjunction with a floor machine and buffing pad.
10. The finish shall resist wet cleaning with alkaline detergent without being removed from the floor and without destroying gloss. It shall, however, be readily removable by industrial and institutional wax strippers.

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SECTION "E" (continued)**CHEMICALS - continued****SPECIFICATIONS - continued****Specification for Spray Buff Solution - continued**

11. The product shall not be acid sensitive and shall resist acidic cleaners and strippers, including acidic soft drinks and fruit juices.
12. The finish shall be non-yellowing on the floor.
13. The finish shall be free from objectionable odor and must not develop an offensive odor upon storage in the original unopened container.
14. The compound shall be stable and not lose its original effectiveness or otherwise deteriorate when stored for 24 months in a closed shipping container at ambient temperatures between 40°F and 100°F.

Specification for Stainless Steel Cleaner and Polish**SCOPE:**

Stainless steel cleaner and polish covered by this specification is intended for use on stainless steel and other unpainted metal surfaces.

REQUIREMENTS:

1. The material shall not cake or powder in crevices or corners and leave no residue on the surface after polishing.
2. The product shall have a pleasant, mild odor and leave no residual odor on the polished surface.
3. The product shall contain no acids, alkali, wax, or abrasive material.
4. The material shall have a flash point in excess of 120°F. by the TAG closed cup method.
5. A flame projection test, with the flame 6 inches from the valve at full valve opening, shall give a flame length not in excess of 17 inches with no flashback toward the valve.

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*SECTION "E" (continued)***CHEMICALS - continued****CHEMICAL PURCHASE**

Purchasing properly is the first step toward acquiring high quality chemicals. Several guidelines concerning the purchase of chemicals are:

Recognize that chemical purchases typically constitute only 3-5% of the total janitorial budget, if they are bought wisely and used properly. Using inferior products because of a low price, costs a great deal more in terms of labour, morale, and the quality of the finished job. An initial price savings is often a costly decision.

Negotiate price, based on the total quantity, even though the product will be delivered in gallon containers. Thus, you should be able to come fairly close to drum prices per gallon, if you purchase in lots of similar size.

Fix brands for at least a year, and let the supplier know it. Avoid any temptation to use samples, or to try new products. If you have good products that are performing well, it is a waste of your time and that of the supervisor to see every salesman that walks in the door. Having a wide variety of products to choose from can also be very confusing to the janitorial worker.

Purchase concentrated chemicals in one-gallon labeled containers except where noted on the previous page.

Purchase by brand name. It is generally more economical to deal with one or two suppliers, simply because you will be a more valuable customer and will probably get better overall pricing and service. As mentioned earlier, price of chemicals is relatively insignificant when compared to their ability to do a good job.

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SECTION "E" (continued)**CHEMICALS - continued****CHEMICAL TYPES****Acid-Type, Bowl Cleaner**

Acid-type, bowl cleaner should be used in toilet bowls and urinals to remove scum, rust, and scale build-up caused by mineral deposits in the water. The frequency of its use depends on the type and concentration of mineral deposits in the water supply and the frequency of use of the toilets and urinals. Use a bowl cleaner which has no more than 8.5% HCL.

Carpet Shampoo

A liquid shampoo concentrate should be used to shampoo carpet and upholstered furniture.

Carpet Stain Remover

A carpet stain remover should be used to remove stains that carpet shampoo will not remove or stains which occur between shampoos.

Degreaser

A water-based degreaser can be used for removal of food fats and greases from food service, preparation and dining areas. Another type of degreaser is specifically designed to remove automotive oils and greases from garages and dock areas.

Floor Finish

The quality and effectiveness of finishes used on resilient tile and terrazzo floors play an important role in the appearance of these floors, the protection of the floor itself, and the amount of labour spent in cleaning and polishing the floor surface.

When used in conjunction with spray-buffing, a metal-link polymer finish is usually the most effective and economical finish for resilient tile and terrazzo floor surfaces.

The metal-link polymer floor finish is less susceptible than other type finishes to softening and removal by the use of detergent based cleaning solutions. This characteristic allows use of more effective cleaning methods and reduces the frequency of stripping and refinishing.

SECTION "E" (continued)**CHEMICALS - continued****CHEMICAL TYPES - continued****Floor Finish - continued**

Different type brands of floor finish should not be applied over each other, or mixed, since they usually are not compatible. Mixing will decrease durability and cause powdering or peeling. Also, the slip resistance of the floor finish may be affected. If a different type or brand is to be used, the entire floor area involved should be completely stripped and refinished.

Floor Finish Stripper

Floor finish stripper should be used periodically to remove metal-link polymer floor finish and water emulsion floor seal from various types of floor surfaces.

FLOOR SEALER

Water emulsion concrete and terrazzo sealer is a product designed to reduce the porosity and seal hardened and unhardened concrete and terrazzo floors. This reduces the susceptibility of these floors to permanent staining from oils, rust, etc. as well as eliminating concrete dusting.

This product reduces the effort required for routine cleaning of concrete and terrazzo areas by keeping soil on the surface rather than allowing it to penetrate the flooring material.

If additional gloss is required for appearance, metal-link polymer finish can be placed over the seal. However, the two products must be chemically compatible (preferably from the same manufacturer).

Water emulsion-type sealers are usually preferred over solvent based sealers because of the expense and technical skills required for the proper application and removal of the solvent sealers. The stripping and refinishing of water emulsion sealers is a process similar to that for metal-link polymer floor finish, requiring the same equipment, chemicals, and techniques.

Germicidal Detergent

A quaternary-ammonium, germicidal detergent should be used for the cleaning of restrooms, locker rooms, drinking fountains, and other areas which offer conditions conducive to the growth of microorganisms, and where risks of cross-infection exist.

Glass Cleaner

Glass cleaner should be used to spot clean and wash glass and certain other synthetic surfaces where slight spotting or streaking would be detrimental to the appearance of the area. The cleaner should be a concentrate and mixed with water before using.

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SECTION "E" (continued)**CHEMICALS - continued****CHEMICAL TYPES - continued****Graffiti Remover**

A graffiti remover normally comes in an aerosol can and should be used to remove graffiti from walls, partitions, doors or other surfaces. Use extreme caution when using this type of product as it may damage the surface you are cleaning. Test in an obscure area before using.

Lotion-Type Cleanser

A creme or lotion-type cleanser should be used to remove hard-to-remove soil from walls, furnishings, fixtures, etc. This type of cleanser replaces the powdered-type cleansers that are normally too abrasive and tend to damage the surfaces on which they are used. Often the surface damage may not be evident over a short period of time; however, once a surface has been abraded, it becomes more easily soiled and more difficult to clean.

Neutral Detergent

A neutral detergent, when used in varying concentrations, can be used for most soil removal operations including mopping, wall washing, spot cleaning of synthetic furniture coverings, etc.

Soap and Scum Remover

A soap and scum remover can be used to remove and prevent build-up of soap and body oils in tubs and showers.

Spray Buff Solution

A premixed spray buff solution provided by the floor finish manufacturer should be used to restore gloss and remove scuff and heel marks.

Stainless Steel Cleaner and Polish

Stainless steel cleaner and polish should be used to remove soil from polished metal surfaces and to reduce the smudging and soiling of such surfaces. However, the application of too much polish will tend to leave the surface with an oily appearance, will attract soil, and show evidence of smudges more readily.