

**San Francisco Department of the Environment Regulations**  
Precautionary Purchasing Ordinance (Ord. No. 115-05)

Adopting Approved Alternative Products for

- |   |                            |
|---|----------------------------|
| 1) Compostable Bags                     | Regulation #SFE-13-02-PPO; |
| 2) Computer Desktops, Laptops, Monitors | Regulation #SFE-13-03-PPO; |
| 3) Janitorial Cleaners                  | Regulation #SFE-13-04-PPO; |
| 4) Hand Dishwashing Detergents          | Regulation #SFE-13-05-PPO; |
| 5) Hand Sanitizers                      | Regulation #SFE-13-06-PPO; |
| 6) Lighting (lamps, ballasts)           | Regulation #SFE-13-07-PPO; |

Effective XXXX

**A. AUTHORIZATION**

The Board of Supervisors and Mayor enacted the Precautionary Purchasing Ordinance, effective July 18, 2005 (the "Ordinance"). The Ordinance is codified as Chapter 2 of the Environment Code. The Ordinance created a comprehensive new system for the City to identify and use environmentally preferable products based on goals and criteria established by the Ordinance. The Ordinance required the Director of the Department of the Environment to consolidate existing environmentally preferable purchasing requirements from other Code sections into regulations. The new regulations described here are implemented pursuant to Environment Code Section 203(d).

**B. DEFINITIONS**

Approved Alternatives List: Products with a lesser impact on human health and the environment compared to other similar products.

Green products: Environmentally preferable products as defined in the Ordinance, and listed as "REQUIRED" on the SFApproved.org web site.

Limited use products: Products which may be purchased by City departments without a special exemption only in cases where Green products are not available for a specific purpose or fixture. These products are listed as "LIMITED USE" on SFApproved.org.

Laptops: Laptop, notebook, or netbook computers. Does not include tablets or smart phones.

Specialty incandescent bulbs/lamps: Defined as specialty incandescents by the federal Energy Independence and Security Act (2007), including: Appliance, black light, bug, colored lamps, infrared lamps, left-hand thread lamps, marine lamps, marine's signal service lamps, mine service, plant light, reflector, rough service, shatter-resistant lamp (including shatter-proof and shatter-protected), sign service, silver bowl, showcase, 3-way, traffic signal, vibration service, G shape (as defined in ANSI C78.20-2003 and C79.1-2002) with a diameter of 5" or more, T shape (as defined in ANSI C78.20-2003 and C79.1-2002) and that uses no more than 40W or has a length of more than 10", B, BA, CA, F, G16-1/2, G-25, G-30, S, or M-14 lamp (as defined in ANSI C78.20-2003 and C79.1-2002) of 40W or less.

**C. REQUIREMENTS**

The attached regulations set forth the scope and requirements pertaining to these product categories, and are subject to the requirements of the Ordinance, including the definitions, requirements pertaining to waivers, and enforcement mechanisms set forth in the Ordinance. The regulations do not duplicate the Ordinance, and must be read together with the Ordinance. Unless otherwise defined below, words used in these regulations shall have the same meanings as those words in the Ordinance.

For the product categories outlined below, City departments may purchase only those products that meet the listed specifications when using City funds. Products that meet the listed specifications are

synonymous with the “approved alternatives list). These products are listed as “REQUIRED” on the City's green purchasing website at [SFApproved.org](http://SFApproved.org).

**D. ENFORCEMENT**

*These regulations have the full force and effect of law. A violation of these regulations is enforceable pursuant to Environment Code section 208.* The Director of the Department of the Environment hereby adopts these regulations, effective as of XXX.

Melanie Nutter

Director Department of the Environment

Approved:  
Sign here

Date:

ATTACHMENTS:  
XXXXXX

**Regulation #SFE-13-02-PPO**

Approved Alternative Products for: **Compostable Bags**

PURCHASING REQUIREMENTS FOR CITY DEPARTMENTS

1. Must be certified compostable by the Biodegradable Products Institute (BPI), Din Certco AIB Vinçotte Inter (Belgium), Japan Bioplastics Association or Australian Environmental Labeling Association proving that the finished product meets ASTM D6400, ASTM D6868, ISO 17088, DIN EN 13432, or AS 4736-2006 standards of compostability.
2. Must not contain additives that include highly hazardous chemicals, including but not limited to: persistent, bioaccumulative, and toxic (PBT) chemicals; very persistent and very bioaccumulative (vPvB) chemicals; carcinogens; mutagens; reproductive toxins.
3. Must not contain polyvinyl chloride (PVC), polystyrene (PS), acrylonitrile butadiene styrene (ABS), polycarbonate (PC), or polyurethane (PU).
4. Must not have been manufactured with chlorine or chlorine compounds.
5. Must be clearly labeled as "compostable" with green lettering and readily distinguishable from any non-compostable plastic products for both users as well as for those handling the products once they are discarded. Preferably, the entire bag will have a green tint. Additionally, the logo of the verification agency must be displayed on the product to confirm the compostable certification.
6. Must not be labeled "biodegradable," "oxy-degradable," or "degradable."
7. Storage and handling instructions must be provided to each end user in order for the end user to maximize the shelf life of the compostable bag product.
8. Must maintain the same strength and integrity at least 6 months from the date of manufacture if storage and handling instructions are followed correctly.
9. Must have a wet load capacity of 30 pounds for bags that fit 7 and 10-gallon containers, 35 pounds minimum for bags which fit 23-gallon container and 40 pounds for bags which fit 32-gallon containers.

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**Regulation #SFE-13-03-PPO**

Approved Alternative Products for: **Computer desktops, laptops and monitors**

PURCHASING REQUIREMENTS FOR CITY DEPARTMENTS

**COMPUTER DESKTOPS, LAPTOPS, MONITORS:** Required to have achieved Gold registration in the Electronic Product Environmental Assessment Tool (EPEAT) website.

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**Regulation #SFE-13-04-PPO**

Approved Alternative Products for: **Janitorial cleaning products**

PURCHASING REQUIREMENTS FOR CITY DEPARTMENTS

| Product subcategory                      | Specification or ecolabel certification required  |
|--|---|
| 1. Bathroom, tub, and tile cleaners      | Green Seal GS-37  |
| 2. Carpet extraction cleaner             | Ecologo CCD-148 or Green Seal GS-37   |
| 3. Cleaner degreasers                    | Green Seal GS-37  |
| 4. Floor care systems                    | Green Seal GS-40 or EcoLogo CCD-147/UL 2777   |
| 5. Furniture Polish                      | Ready-to-use in a trigger spray bottle. Non-aerosol. May not contain glycol ethers, phthalates, monoethanolamine or alkyl phenol ethoxylates; pH 6-10. No chlorinated compounds. No chemicals known to the state of California to cause cancer (as listed under Prop 65). |
| 6. General Purpose/Multipurpose Cleaners | Green Seal GS-37  |
| 7. Glass Cleaners                        | Green Seal GS-37  |
| 8. Hand Soap                             | Green Seal GS-41-OR- EcoLogo CCD-104/UL 2784. Hand soap labeled "antimicrobial" or containing triclosan or triclocarban are prohibited.   |
| 9. Neutral Floor Cleaners                | Green Seal GS-37 -OR- Green Seal GS-40 -OR- Ecologo CCD-147/UL 2777   |
| 10. Urinal cakes                         | Ecologo CCD-165/UL 2780 -OR- product does not contain paradichlorobenzene   |

**Regulation #SFE-13-05-PPO**

Approved Alternative Products for: **Hand sanitizers**

PURCHASING REQUIREMENTS FOR CITY DEPARTMENTS

- I. Hand sanitizers :** Must meet all of the following requirements.
- A.** Must not contain triclosan or triclocarban.

**Regulation #SFE-13-06-PPO**

Approved Alternative Products for: **Hand dishwashing detergents**

PURCHASING REQUIREMENTS FOR CITY DEPARTMENTS

- II. Hand dishwashing detergents:** Must meet all of the following requirements.
- A.** Must not be labeled as "antimicrobial" or "antibacterial."
- B.** Must not contain triclosan or triclocarban.

**Regulation #SFE-13-07-PPO**

Approved Alternative Products for: **Lighting (Lamps and Ballasts)**

PURCHASING REQUIREMENTS FOR CITY DEPARTMENTS

**1. Green fluorescent lamps**

| a. T8 Lamps  | Minimum Rated Life (Hours)* | Minimum Warranty (Years) | Minimum CRI | Maximum Mercury (mg) |
|--|-----------------------------|--------------------------|-------------|----------------------|
| (1) 48 inch, linear (including 32-watt and lower-wattage "energy-saving" models) | 24,000                      | 3                        | 80          | 3.5                  |
| (2) Shorter than 48 inch, linear   | 18,000                      | 3                        | 80          | 3.5                  |
| (3) Longer than 48 inch, linear  | 18,000                      | 2                        | 80          | 10                   |
| (4) U-bent   | 18,000                      | 2                        | 80          | 8                    |

| b. T5 Lamps               | Minimum Rated Life (hrs)* | Minimum Warranty (Years) | Minimum CRI | Maximum Mercury (mg) |
|---------------------------|---------------------------|--------------------------|-------------|----------------------|
| (1) Standard linear T5    | 25,000                    | 2                        | 85          | 3                    |
| (2) High-output linear T5 | 25,000                    | 2                        | 85          | 3                    |
| (3) Circular T5           | 12,000                    | 2                        | 82          | 10                   |

| c. Compact Fluorescent Lamps (CFLs) – 4 pin | Minimum Rated Life (hrs) | Minimum Warranty (Years) | Minimum CRI | Maximum Mercury (mg) |
|---|--------------------------|--------------------------|-------------|----------------------|
| (1) 4-pin CFLs                              | 12,000                   | 1                        | 82          | 5.0                  |

| d. Electrodeless Lamps    | Minimum Rated Life (hrs) | Minimum Warranty (Years) | Minimum CRI | Maximum Mercury (mg) |
|---------------------------|--------------------------|--------------------------|-------------|----------------------|
| (1) Induction fluorescent | 100,000                  | 5                        | 80          | 18                   |

| e. Compact Fluorescent Lamps (CFLs) – Self Ballasted   | ENERGY STAR CFL v4.0 Specs | Min. Rated Life (Hrs) | Min. Warranty (Years) | Min. CRI | Maximum Mercury (mg) |
|--|----------------------------|-----------------------|-----------------------|----------|----------------------|
| (1) Self-Ballasted (<50W), Bare Spiral (Twist)   | Required                   | 10,000                | 1                     | N/A*     | 3.5                  |
| (2) Self-Ballasted (<50W), Other shapes (Reflectors, A-shaped, globes, bullets, candles, etc.) | Required                   | 8,000                 | 1                     | N/A*     | 3.5                  |
| (3) Self-Ballasted (≥50W Bare Spiral (Twist)   | Required                   | 10,000                | 1                     | N/A*     | 5                    |
| (4) Self-Ballasted (≥50W), Other shapes (Reflectors, A-shaped, globes, etc.)                   | Required                   | 8,000                 | 1                     | N/A*     | 5                    |

| f. Cold Cathode CFLs   | Minimum Rated Life (Hours) | Minimum Warranty (Years) | Minimum CRI | Maximum Mercury mg) |
|--|----------------------------|--------------------------|-------------|---------------------|
| (1) Self-Ballasted Cold cathode CFLs, low-wattage (≤10 watts)  | 18,000                     | 2                        | 80          | 3.5                 |
| (2) Self-Ballasted Cold cathode CFLs, high wattage (>10 watts) | 15,000                     | 2                        | 80          | 3.5                 |

1. **Limited Use fluorescent lamps** can be purchased without a special exemption if Green fluorescents are not available for a specific purpose or fixture.

| a. Other Fluorescents                                  | Minimum Rated Life (Hours)  | Minimum Warranty (Years) | Minimum CRI | Maximum Mercury (mg)   |
|--|-----------------------------|--------------------------|-------------|--|
| (1) 2-pin CFLs   | 10,000                      | 1                        | 80          | 3.5  |
| (2) Linear T12 Fluorescents, 4 foot, except HO and VHO | 20,000                      | 1                        | 70          | 5  |
| (3) Preheat fluorescents                               | No minimum (varies by type) | 1                        | 60          | 15, TCLP-compliant <sup>1</sup> if available from manufacturer |
| (4) Other T12s, including other linear and HO models   | 12,000                      | 1                        | 70          | 15, TCLP-compliant if available from manufacturer              |
| (5) T12s, VHO and cold temperature rated models        | 10,000                      | 1                        | 70          | 30, TCLP-compliant if available from manufacturer              |
| (6) T9 Circular Fluorescent Lamps                      | 12,000                      | 1                        | 70          | 15, TCLP-compliant if available from manufacturer              |

## 2. Green High-Intensity Discharge (HID) Lamps

| a. High Pressure Sodium (HPS) Lamps  | Minimum Rated Life (Hours) | Minimum Warranty (Years) | Maximum Mercury (mg)                                    |
|--|----------------------------|--------------------------|---|
| (1) Mogul base, cycling, up to 1000 watts (Limited Use)                                    | 24,000                     | 1                        | TCLP-compliant  |
| (2) Mogul base, non-cycling, up to 1000 watts (Green)                                      | 30,000                     | 2                        | 10 maximum, TCLP-compliant                              |
| (3) Other HPS lamps (including medium base, standby models, and other types) (Limited Use) | No minimum                 | 1                        | TCLP-compliant preferred if available from manufacturer |

| b. Metal Halide Lamps                                  | Minimum Rated Life (Hours) | Minimum Warranty (Years) | Maximum Mercury (mg)   |
|--|----------------------------|--------------------------|--|
| (1) Ceramic and other 'pulse start' metal halide lamps | No minimum                 | 1                        | TCLP compliant preferred- whenever available from manufacturer |

**3. Limited Use Incandescents:** can be purchased without a special exemption if Green lamps are not available for a specific purpose or fixture. Limited Use incandescent are defined as:

- a) Specialty incandescents (see definition) –OR–
- b) General service reflector incandescent lamps that meet:
  - (1) Energy-efficiency requirements established by the US Department of Energy in its final lighting efficiency rule. [www.eere.energy.gov/buildings/appliance\\_standards/pdfs/74fr34080.pdf](http://www.eere.energy.gov/buildings/appliance_standards/pdfs/74fr34080.pdf)
  - (2) Energy-efficiency and rated life requirements established by the National Energy Independence and Security Act of 2007 and/or the US Department of Energy rules and adopted by the California Energy Commission (website: [http://www.energy.ca.gov/lightbulbs/lightbulb\\_faqs.html](http://www.energy.ca.gov/lightbulbs/lightbulb_faqs.html)) effective 1/1/11 (see table below).

| Lumen Ranges | Maximum Wattage | Minimum Rated Life |
|--------------|-----------------|--------------------|
| 1490-2600    | 72              | 1000 hours         |

<sup>1</sup> TCLP stands for Toxicity Characteristic Leaching Procedure. The TCLP test was designed by the US Environmental Protection Agency (EPA) to determine the mobility of both organic and inorganic chemicals present in liquid and solid wastes. This test is used to determine if a waste meets the definition of EPA Toxicity, that is, carrying a hazardous waste code under RCRA (40 CFR Part 261) of D004 through D052. TCLP-compliant lamps generally are designated with a code of ECO for GE's Ecolux and Sylvania's Ecologic products and ALTO for Philips' products.

|           |    |            |
|-----------|----|------------|
| 1050-1489 | 53 | 1000 hours |
| 750-1049  | 43 | 1000 hours |
| 310-749   | 29 | 1000 hours |

**4. Green Light-emitting Diode (LED) Exit Sign Lamps and Retrofit Kits**

- a) Must be UL 924-listed
- b) Should be ETL-listed
- c) Must meet current NFPA 101, NEC, and OSHA illumination standards
- d) Must meet or exceed the following:

| Description                                | Minimum Warranty (Years) | Maximum Watts |
|--|--------------------------|---------------|
| Exit Sign LED Retrofit Kits                | 5                        | 5             |
| Individual LED Exit Sign Replacement Lamps | 5                        | 2             |

**5. Green Integral Light-Emitting Diode (LED) Lamps**

- a) Must be ENERGY STAR rated
- b) Must have a minimum three (3) year manufacturer's warranty, consistent with ENERGY STAR requirements; see [http://energystar.gov/ia/partners/product\\_specs/program\\_reqs/Solid-State\\_Lighting\\_Program\\_Requirements.pdf](http://energystar.gov/ia/partners/product_specs/program_reqs/Solid-State_Lighting_Program_Requirements.pdf).

**6. Ballasts** must meet or exceed the following requirements:

a) **All Ballasts**

- (1) Be UL-listed.
- (2) All ballasts should be physically interchangeable with standard electromagnetic or standard electronic ballasts, where applicable.
- (3) Meet California's Title 24 Energy Code requirements.
- (4) Contain auto restart circuitry in order to restart lamps without resetting power.
- (5) Be able to tolerate sustained open circuit and short circuit output conditions without becoming damaged.
- (6) Be rated for a starting temperature down to 32 degrees f and/or 0 degrees c or less.
- (7) Contain no exposed live parts.
- (8) To the greatest extent practicable, all ballasts should be ROHS-compliant (i.e., compliant with the European Union's Restriction on Hazardous Substances Directive).
- (9) Be made in a factory that is certified to ISO 9002 Quality System Standards or equivalent.
- (10) Not contain polychlorinated biphenyls (PCBs).

b) **Fluorescent Ballasts**

- (1) Must be electronic, instant start or program start only. (No magnetic fluorescent ballasts)
- (2) Must have a Class A sound rating.
- (3) All electronic instant start and programmed start fluorescent ballasts with standard or low-ballast factors for 32-watt 4-foot T8 lamps should be "extra efficient". (The extra-efficient ballasts are those that are labeled as "NEMA Premium Efficiency" and can be found on the following list, which is maintained by the Consortium for Energy Efficiency: <http://www.cee1.org/com/com-It/>)
- (4) All linear and U-bent fluorescent ballasts must have a power factor of >0.90. (According to the US Department of Energy, "Power factor indicates how effectively the input power and current are converted into usable watts of power delivered to the ballast. High-power-factor ballasts reduce current loads on building wiring and transformers.")
- (5) Must be high-frequency and operate lamps at a frequency above 42k Hz to avoid interference with infrared devices and to eliminate visible flicker.
- (6) All ballasts for fluorescent lamps must have a lamp current crest factor (ratio of peak to RMS) not to exceed 1.7 crest factor.
- (7) All linear and U-bent fluorescent ballasts should be designed to enable light output to be maintained such that it does not vary more than +/- 5% within operating ranges of +/- 10% of rated system voltage.
- (8) Instant start ballasts must run on 120V or 277V or both. All Program Start ballasts must be multi-voltage and run on 120V, 230V and 277V.

- (9) Compact fluorescent and T5 fluorescent ballasts must employ end-of-life (EOL) circuitry to shut down the circuit at the end of the lamp life. This removes power from the obsolete lamp and prevents lamp overheating.
  - (10) Ballasts for T8, T5 and 4-pin compact fluorescent lamps must have a total harmonic distortion (THD) of <10% at full light output. Ballasts for induction fluorescent lamps should have a THD of <15% at full light output.
  - (11) Instant start ballasts must provide independent Lamp Operation, which enables the remaining lamp or lamps to maintain full light output when one or more lamps fails.
  - (12) Warranty for fluorescent ballast <70 degrees C to be a minimum of five (5) years from date of manufacture.
  - (13) Warranty for fluorescent ballast >70 degrees C to be a minimum of three (3) years from date of manufacture.
- c) **HID Ballasts**
- (1) Must have a Power Factor greater than 90%.
  - (2) Must have a minimum efficiency of 88%
  - (3) Must be designed in accordance with all applicable ANSI specifications including ANSI C82.4.
  - (4) Must provide a "Lamp Current Crest Factor" of less than 1.7.
  - (5) Must employ end-of-life (EOL) circuitry to shut down the circuit at the end of the lamp life.
  - (6) Must have a minimum 2-year warranty from date of manufacture against defects in material or workmanship, including replacement, for operation at a maximum case temperature of 70C.
- d) **Green Electronic HID Ballasts**
- (1) The electronic HID ballast input current should have Total Harmonic Distortion (THD) of less than 15%.
  - (2) Must have a lamp end-of-life detection and shutdown circuit.
  - (3) Must be Sound Rated A.
- e) **Limited Use Magnetic HID Ballasts:** May be purchased if green ballasts are not available for a fixture.
- (1) Core and coil ballasts must be designed with class "H" (180°C) or higher insulation system
  - (2) All coils must be precision wound.
  - (3) Core and Coil ballasts should be designed to operate for 60,000 hours of continuous operation at their maximum rated temperature.
  - (4) Core and Coil ballasts and starter combinations should be designed to provide a reliable lamp starting down to -40°C for High Pressure Sodium and -30°C for Metal Halide at nominal line voltage of plus or minus 10%.