

## **GREEN CHOICE PHILIPPINES**

### **NELP-GCP - 2008014 LIQUID DISINFECTANT**

#### **1. ENVIRONMENTAL SCENARIO**

Disinfectants are used to remove microbes from hard surfaces (disinfect) or reduce microbial levels. Disinfectant products sold for use in healthcare or food processing facilities fall into this surfaces (sanitize).

The criteria focus on several issues – toxicity to aquatic life, toxicity to mammalian life, biodegradability / breakdown, performance in the presence of soil, low risk for promoting microbial resistance, restrict ingredients with negative impacts to air quality (VOCs), human health (e.g., carcinogens) and packaging.

Based on a review of currently available life cycle information, the product category requirements should produce an environmental benefit through reduced water pollution, reduced indoor air impacts, and reduced solid waste

#### **2. DEFINITION OF TERMS**

##### **2.1. ANTISEPTICS**

Chemicals that kill microorganisms on living skin or mucous membranes.

##### **2.2. BACTERICIDAL**

Chemical agents capable of killing bacteria. Similarly agents that virucidal, fungicidal or sporicidal are agents capable of killing these organisms.

##### **2.3. CARCINOGEN**

A chemical listed as a known, probable, or possible human carcinogen by the International Agency for Research on Cancer (IARC) (Groups 1, 2A, and 2B), the National Toxicology Program (NTP) (Groups 1 and 2), the U.S. Environmental Protection Agency (EPA) Integrated Risk Information System (IRIS) (weight-of-evidence classifications A, B1, B2, and C), or the Occupational Safety and Health Administration (OSHA).

##### **2.4. CHEMICAL CONTROL ORDER**

Prohibits, limits, and regulates the use, manufacture, import, export, transport, processing, storage, possession and wholesale of priority chemicals.

##### **2.5. CLEANING**

The physical removal of foreign material, e.g., dust, soil, organic material such as blood, secretions, excretions and microorganisms. Cleaning generally removes rather than kills microorganisms. It is accomplished with water, detergents and mechanical action. The terms “decontamination” and “sanitation” may be used for this process in certain settings, e.g., central service or dietetics. Cleaning reduces or eliminates the reservoirs of potential pathogenic organisms.

**2.6. CORROSIVE**

A substance that causes visible destruction of, or irreversible alterations in living tissue by chemical action at the site of contact.

**2.7. DENR ADMINISTRATIVE ORDER 2004-08 (DENR AO 2004-08)**

Revised chemical control order for Ozone Depleting Substances (ODS)

**2.8. DENR ADMINISTRATIVE ORDER 2005-05 (DENR AO 2005-05)**

Toxic Chemical Substances for Issuance of Chemical Control Orders

**2.9. DENR ADMINISTRATIVE ORDER 2005-27 (DENR AO 2005-27)**

Revised Priority Chemical List

**2.10. DISINFECTION**

The inactivation of disease-producing microorganisms. Disinfection does not destroy bacterial spores. Disinfectants are used on inanimate objects in contrast to antiseptics, which are used on living tissue. Disinfection usually involves chemicals, heat or ultraviolet light. The nature of chemical disinfection varies with the type of product used.

**2.11. HALOGENATED SOLVENT**

Means with halogens including chlorine or iodine and associated compounds including sodium hypochlorite (bleach).

**2.12. IMPORTATION**

Means the entry of a product or substance into the Philippines (through the seaports or airports of entry) after having been properly cleared through or still remaining under customs control, the product or substance of which is intended for direct consumption, merchandising, warehousing, for further processing.

**2.13. INGREDIENT**

Any constituent of a product that is intentionally added or known to be a contaminant that comprises at least 0.01% by weight.

**2.14. OZONE-DEPLETING COMPOUNDS**

Any compound with an ozone-depletion potential greater than 0.01 (CFC 11=1).

**2.15. PRESIDENTIAL DECREE 881 (PD 881)**

Empowering the Secretary of Health to regulate the labeling, sale and distribution of Household Hazardous Substance.

**2.16. PROCESS**

Means the preparation of a chemical substance or mixture after its manufacture for commercial distribution:

1. In the same form or physical state or in a different form or physical state from that which it was received by the person so preparing such substance or mixture; or
2. As part of an article containing a chemical substance or mixture.

**2.17. REPUBLIC ACT 6969 (RA 6969)**

Toxic Substances, Hazardous and Nuclear Waste Control Act

### **2.18. SANITATION**

A process that reduces microorganisms on an inanimate object to a below that of infectious hazard (e.g., dishes and eating utensils are sanitized).

### **2.19. TRANSPORT**

Includes conveyance by air, water and land

### **2.20. VOLATILE ORGANIC COMPOUND (VOC)**

Organic chemical compounds that under normal conditions are gaseous or can vaporize and enter the atmosphere. VOCs contribute significantly to photochemical smog production and certain health problems.

### **2.21. UNREASONABLE RISK**

Means expected high frequency of undesirable effects or adverse responses arising from a given exposure to a substance.

## **3. SCOPE**

These criteria are applicable to liquid disinfectants.

## **4. GREEN CHOICE REQUIREMENTS**

### **4.1. Product Quality Performance**

Products shall be of high quality and perform well in their intended application. High standards of product performance are implicit in the label. The products must ensure its fitness for its intended purpose and where relevant.

#### **4.1.1. pH Level**

The pH shall be between 7.0 – 10.0

### **4.2. Product Environmental Performance**

#### **4.2.1. Compliance to Environmental Regulations**

The applicant is required to comply with relevant environmental legislations this includes production process, transport and disposal features of the product.

#### **4.2.2. Flash Point**

The flash point of the product shall be equal to or greater than 61°C

#### **4.2.3. Builders**

- The product shall not contain nitrilotriacetate (NTA) and Diethylene triamine pentaacetic acid (DTPA).
- Ethylene diamine tetraacetic acid (EDTA) and phosphonates shall not exceed 0.1%.

#### **4.2.4. Preservatives**

Preservatives must not be bioaccumulative. The requirement is imposed in order to reduce the environmental impact associated with the use of preservatives since they are often highly toxic to water-borne organisms.

Biocides may be added only as preservatives, not for the purpose of disinfecting wash surfaces.

**4.2.5. Solvents**

The product shall not be formulated or manufactured with halogenated solvents.

**4.2.6. Coloring Agents**

The general goal that the use of chemicals should be reduces. Dyestuffs or coloring agents are not permitted since they are not considered necessary in disinfection.

**4.2.7. Use of Ozone-Depleting Substances**

The solvents used to clean the production equipment of architectural coatings must not contain ozone depleting substances as listed in DENR AO 2004-08 or those described in Table 1.

**Table 1: Ozone Depleting Substances (ODS)**

Name	Chemical Formula	ODP	Other Names
Hexachlorobutadiene	C <sub>4</sub> Cl <sub>6</sub>	0.07	HCBD
n-propyl bromide	1-C <sub>3</sub> H <sub>7</sub> Br or CH <sub>2</sub> BrCH <sub>2</sub> CH <sub>3</sub>	0.0033-0.111	1-Bromopropane, CH <sub>2</sub> BrCH <sub>2</sub> CH <sub>3</sub> and nPB
1,1,1-trichloro-2,2,2-trifluoroethane	CFC-113a	0.65	R.113a
6-bromo-2-methoxy-naphtalene	C <sub>10</sub> H <sub>2</sub> BrOCH <sub>3</sub>		bromo-methoxy-naphtalene, BMN (CAS number 511165-9)
Halon-1202	CBr <sub>2</sub> F <sub>2</sub>	Best Estimate: 1.25	dibromodifluoromethane, difluorodibromomethane, Freon 12-B2, R12B2 and UN1941
1-bromo-3-chloro-propane	CH <sub>2</sub> ClBr <sub>2</sub>	0.05	
Bromochloromethane**	CH <sub>2</sub> BrCl	0.12	chlorobromomethane

**4.2.8. Carcinogenic substances**

Approved disinfectants shall not contain substances listed in Class 1 or 2A by the International Agency for Research on Cancer at a rate of exposure exceeding one twentieth (1/20) of those defined by exposure standards listed in Annex 1.

**4.2.9. Other Harmful Substances**

The undiluted substances shall not contain with the following ingredients and its derivatives:

- 2-Butoxyethanol
- Alkylphenol ethoxylates
- Phthalates
- Substances listed in DENR AO 2005-05 and DENR AO 2005-27

**4.3. Other Criteria**

**4.3.1. Label**

- The label must include detailed instructions for proper use to maximize the product performance and minimize waste
- The label shall also include the instructions for proper use of personal protective equipment
- The labels shall comply with the labeling requirements of PD 881.

**4.3.2. Packaging**

Concentrated products are prohibited from being packaged in ready-to-use forms, including, but not limited to spray-dispenser bottle.

**5. EVALUATION AND VALIDATION**

PRODUCT CRITERIA	EVALUATION AND VALIDATION
<b>4.1 PRODUCT QUALITY PERFORMANCE</b>	
4.1.1 Product Quality Standard	The applicant shall submit a certification or test result from duly recognized or accredited laboratories.*
4.1.1. pH Level	
<b>4.2. PRODUCT ENVIRONMENTAL REQUIREMENTS</b>	
4.2.1. Compliance to Environmental Regulations	The applicant shall submit applicable licenses and permits indicating the manufacturer's compliance with agreements on environmental regulations applicable to the area which the plant is located
4.2.2. Flash Point	The applicant shall submit a certification or test result from duly recognized or accredited laboratories.*
4.2.3. Builders	
4.2.4. Preservatives	
4.2.5. Solvents	
4.2.6. Coloring Agents	
4.2.7. Use of Ozone Depleting Substances	
4.2.8. Carcinogenic Substances	
4.2.9. Other Harmful Substances	
<b>4.3. OTHER CRITERIA</b>	
4.3.1. Label	The applicant shall submit a portfolio and statement in writing signed by the Chief Executive Officer or counterpart of the company complete with relevant documentations, including samples.**
4.3.2. Packaging	

\* Laboratories accepted by national or international accreditation bodies such as the Asia Pacific Laboratory Accreditation Cooperation (APLAC) or International Laboratory Accreditation Cooperation (ILAC)

\*\* Notarized documents

**6. PERIOD OF VALIDITY**

The product criteria shall take effect for three (3) years from the date of its approval, and subject to change or withdrawal by the *Green Choice Philippines-ELP Board*, if necessary at any period of time

## 7. REFERENCES

BC Center for disease Control Laboratory Services; *A Guide to Selection and Use of Disinfectants*; 2003.

DENR Administrative Order No. 36-2004 – Hazardous Waste Management

DENR Administrative Order 2005-05 - Toxic Chemical Substances for Issuance of Chemical Control Orders

DENR Administrative Order 2005-27 - Revised Priority Chemical List

European Union – DG Environment; *Ecolabel Criteria for All-Purpose and Sanitary Cleaners*; December 2000

Green Seal, Inc.; *Green Seal Environmental Standard for General-Purpose, Bathroom, Glass, and Carpet Cleaners Used for Household Purposes*; 2007

<http://www.geca.org.au>

<http://www.epa.gov>

Nordic Ecolabelling: *Green Background document for the Ecolabelling of Industrial Cleaning and Degreasing Agents*; December 2004.

Presidential Decree 881 -Empowering the Secretary of Health to regulate the labeling, sale and distribution of Household Hazardous Substance.

Republic Act 6969 - Toxic Substances, Hazardous and Nuclear Waste Control Act