

DRAFT INTERIM ENVIRONMENTAL PRODUCT CRITERIA FOR ORGANIC LIQUID DISINFECTANT

Environmental Scenario

Synthetic chemicals being used for the production of many of our liquid disinfectant react with water and produce potentially undesirable substances that are sometimes absorbed by the body or released into the aquatic environment. These materials are made from petroleum, a non-renewable resource whose transportation, extraction and refining can cause major environmental degradation. At the manufacturing stage it is also often an energy intensive process that may introduce a variety of toxic chemicals into air and water. Many of these are not readily biodegradable and thus accumulate in the environment. One option to get away from these environment-unfriendly chemicals is to shift to organic liquid disinfectant.

Disinfectants are being used to remove and destroy microbes from hard surfaces or reduce microbial levels. Products intended to improve health conditions are sanitizers. Sanitation is related to clean water supply, safe food supply, proper disposal of municipal garbage and human wastes, hygiene of operators and machinery, keeping the city/environment clean and preventing the spread of diseases.

Definition of Terms

1. Antiseptics

Antiseptics are chemicals that prevent microorganisms from gaining access to or multiplying in body tissues injured by accidents or surgery, thus preventing infection on skin or mucous membranes.

2. *Bactericidal*

Chemical agents capable of killing bacteria are bactericidal. Bacteriostatic agents prevent the multiplication of bacteria by inhibiting their growth. Similarly agents that kill viruses are virucidal, fungicidal when they kill fungi which include molds and yeasts, and sporicidal when agents are capable of killing spores of either bacteria and fungi.

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).

4. Chemical Control Order

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

5. Cleaning

Cleaning refers to the physical removal of foreign material, e.g., dirt, 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.

6. Disinfection

Disinfection refers to the inactivation of disease-producing microorganisms, it 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.

7. Process

Process means the preparation of a chemical substance or mixture. It could start from procurement of raw material to several serial/sequential methods involved until the finished product is ready for distribution to commercial establishments.

8. REPUBLIC ACT 6969 (RA 6969)

Toxic Substances, Hazardous and Nuclear Waste Control Act

9. Concentrated Plant Extract

Concentrated preparations of the active component are derived through squeezing, decoction, or extraction with a suitable solvent followed by evaporation of solvent to concentrate the active component.

10. Organic

A labeling term that refers to an agricultural product, derived from plants.

11. Potent enzymes

Enzymes are catalysts and the activity is expressed as enzyme activity or specific activity. Potent refers to the strength, how much of the enzyme is needed to catalyze a reaction.

12. Odor Eliminator

Substances that remove bad odor by killing the microorganisms that gives foul odor or by masking the odor through the use of essential oils derived from plants.

13. Insect Repellant

Substance applied to skin, clothing, or other surfaces which discourages insects (and arthropods in general) from landing or climbing on that surface.

14. Insecticide

A pesticide used against insects. They include ovicides and larvicides used against the eggs and larvae of insects respectively. Insecticides are used in agriculture, medicine, industry and the household.

15. Enzymes

These are biomolecules that catalyze (*i.e.*, increase the rates without being consumed in the reaction) chemical reactions. Nearly all known enzymes are proteins.

16. Clean Water Act

The Philippine Clean Water Act of 2004 (Republic Act No. 9275) aims to protect the country's water bodies from pollution from land-based sources (industries and commercial establishments, agriculture and community/household activities). It provides for a comprehensive and integrated strategy to prevent and minimize pollution through a multi-sectoral and participatory approach involving all the stakeholders.

II. Scope

These criteria are applicable to liquid organic disinfectant.

III. Green Choice Requirement

A. Product Quality Performance

1. Product 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.

2. The products shall meet all applicable governmental safety and performance standards.

B. Product Environmental Performance

1. *Compliance to Environmental Regulations*

i. The applicant is required to comply with all relevant environmental legislations that include production process, transport and disposal features of the product.

ii. The raw materials have not been applied with chemical fertilizer and pesticide in the area of cultivation.

iii. Does not exhibit toxicity

2. *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.

3. Other Harmful Substances

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

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

4. The product should be 95% naturally-derived plant ingredients.

C. Other Criteria

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 label shall comply with the Food and Drug Administration (FDA) requirements or its equivalent
- Follow the product code for plastic container
- Clearly state the directions for use and the contact conditions. Include the following information on the bottle label:
 - Product name
 - Contents, ingredients, nominal concentration of active and inactive ingredients
 - Name and address of manufacturer and/distributor
 - Intended use
 - Warnings:
 - Contraindications
 - Adverse reaction
 - Adequate direction for use
- Detail the preparation and use
- Dilution procedure

2. **Packaging**

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

Packaging materials shall be made from recycled and recyclable materials or biodegradable materials or compostable plastic wares

IV. VERIFICATION

1. For the product quality performance, the applicant shall submit a registration certificate duly issued by the Food and Drug Authority (FDA) or its equivalent. The applicant shall submit performance test of the product.
2. For Product environmental performance, the applicant shall:
 - a. submit all pertinent environmental permits from DENR
 - b. submit test result on the non-toxicity of the product

c. submit test result using AMES test for carcinogen

3. Applicant should submit the complete list of raw materials used in the production.

4. Applicant should submit MSDS.

References:

Kramer, Shelley R. Healthy-Communications.com. Healthy Awareness for Body and Mind and Solutions for Good Health, Harmony and Prosperity.