



ZEP MANUFACTURING COMPANY
 Acuity Specialty Products Group, Inc.
 P.O. BOX 2015
 ATLANTA, GA 30301
 1- 877- I - BUY- ZEP

Material Safety Data Sheet and Safe Handling and Disposal Information

Section 1. Chemical Product and Company Identification

Product name ZEP FRONTIER COUNTRY GARDEN

Product Code 1721 **Date of issue** 04/11/03

Version 1.00 **Supersedes** 12/01/00

Product Use Toilet Bowl & Urinal Odor Counteractant & Cleaner

Emergency Telephone Numbers **For MSDS Information:**
 Acuity Specialty Products Group, Inc.
Compliance Services 1-877-I-BUY-ZEP

For Medical Emergency:
 INFOTRAC
(877) 541-2016 Toll Free - All Calls Recorded

For a Transportation Emergency:
 CHEMTREC
**(800) 424-9300 - All Calls Recorded
 in the District of Columbia (202) 483-7616**

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 1420 Seaboard Industrial Blvd.
 Atlanta, GA 30318

Section 2. Composition, Information on Ingredients

| Name of Hazardous Ingredients | CAS # | % by Weight | Exposure Limits |
|---|------------|-------------|---|
| 1) ETHANOL; ethyl alcohol; grain alcohol | 64-17-5 | 5-15 | OSHA (United States). TWA: 1000 ppm |
| 2) ISOPROPYL ALCOHOL; ipa; dimethylcarbinol; 2-propanol | 67-63-0 | 5-15 | ACGIH/OSHA (United States). TWA: 400 ppm STEL: 500 ppm |
| 3) ALKYLDIMETHYLETHYL-BENZYL AMMONIUM CHLORIDE | 68956-79-6 | >5 | Not available. |
| 4) D-LIMONENE - orange distillate; citrus terpene; cyclohexene, 1-methyl-4-(1-methylethenyl)-, (R)- | 5989-27-5 | >5 | Not available. |
| 5) ETHYL ACETATE; acetoxyethane; ethyl acetic ester | 141-78-6 | >5 | OSHA PEL (United States). TWA: 400 ppm |

Section 3. Hazards Identification

Acute Effects **Routes of Entry** Skin. Inhalation.

Skin Slightly hazardous in case of skin contact (irritant, sensitizer). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. May cause allergic reactions to certain individuals.

Eyes Hazardous in case of eye contact (irritant). Inflammation of the eye is characterized by redness, watering, and itching.

Inhalation No data on acute toxicity of the product when inhaled.

Ingestion No data on acute toxicity of the product when ingested.

| HMIS | |
|---------------------|-----|
| Health | 1 |
| Fire Hazard | 3 |
| Reactivity | 0 |
| Personal Protection | N/A |

Carcinogenic Effects Ingredients: Not listed as carcinogen by OSHA, NTP or IARC.

Chronic Effects The substance may be toxic to kidneys, liver, central nervous system (CNS), optic nerve. Repeated or prolonged exposure to the substance can produce target organs damage.

See Toxicological Information (section 11)

Section 4. First Aid Measures

Eye Contact Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Get medical attention.

Skin Contact Wash affected area with soap or mild detergent and water. Cover the irritated skin with an emollient. If irritation persists, get medical attention.

Inhalation If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If irritation persists, get medical attention.

Ingestion Do NOT induce vomiting unless directed to do so by medical personnel. If vomiting occurs, keep head lower than hips to help prevent aspiration. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Section 5. Fire Fighting Measures

Flash Point CLOSED CUP: 35°C (95°F). **Flammable Limits** Not determined.

(Tagliabue.)

Flammability FLAMMABLE.

Fire Hazard Avoid all possible sources of ignition (spark or flame). Cool closed containers exposed to fire with water.

Fire-Fighting Procedures Use DRY chemicals, CO2, alcohol foam or water spray. Wear special protective clothing and positive pressure, self-contained breathing apparatus.



Section 6. Accidental Release Measures

Spill Clean up Large spills are unlikely due to packaging. Eliminate all ignition sources. Put on appropriate personal protective equipment (see Section 8). Absorb with an inert material and place in an appropriate waste disposal container. To clean the floor and all objects contaminated by this material, use detergent. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Section 7. Handling and Storage

Handling Keep away from heat, sparks and flame. Avoid contact with eyes, skin and clothing.
Storage Flammable Avoid all possible sources of ignition (spark or flame). Store in a dry, cool and well-ventilated area. Keep container tightly closed and sealed until ready for use. Store between 40°F - 120°F. Keep out of the reach of children.

Section 8. Exposure Controls, Personal Protection**Personal Protection****Protective Clothing (Pictograms)**

Eyes No special measures required.
Body No special measures required.
Respiratory No special measures required.

Section 9. Physical and Chemical Properties

| | | | |
|-------------------------|------------------------|-------------------------|-------------------------------|
| Physical State | Liquid. (Hazy liquid.) | Color | White. |
| pH | Not applicable. | Odor | Floral. |
| Boiling Point | 73.9°C (165°F) | Vapor Pressure | Not determined. |
| Specific Gravity | 0.98 (Water = 1) | Vapor Density | Not determined. |
| Solubility | Soluble in cold water. | Evaporation Rate | <1 compared to Butyl acetate. |
| | | VOC (Consumer) | 28% - 274 (g/l). |

Section 10. Stability and Reactivity

Stability and Reactivity The product is stable.
Incompatibility Avoid contact with strong oxidizers, excessive heat, sparks or open flame.
Hazardous Polymerization Will not occur.
Hazardous Decomposition Products Carbon Dioxide, Carbon Monoxide and Other organic materials.

Section 11. Toxicological Information

Toxicity to Animals

Ethanol:
 ORAL (LD50): Acute: 7060 mg/kg [Rat].
 DERMAL (LD50): Acute: 2000 mg/kg [Rabbit].
 VAPOR (LC50): Acute: 3000 ppm 4 hour(s) [Rat].

Isopropyl Alcohol:
 ORAL (LD50): Acute: 5045 mg/kg [Rat].

d-Limonene:
 ORAL (LD50): Acute: 5600 mg/kg [Mouse]. 4400 mg/kg [Rat].
 DERMAL (LD50): Acute: >5000 mg/kg [Rabbit].

Ethyl Acetate:
 ORAL (LD50): Acute: 5600 mg/kg [Rat].
 VAPOR (LC50): Acute: 1600 ppm 8 hour(s) [Rat].

Section 12. Ecological Information

Ecotoxicity Not available.
Biodegradable/OECD Not available.

Section 13. Disposal Considerations

Waste Information Waste must be disposed of in accordance with federal, state and local environmental control regulations.
Waste Stream Code: D002
 Classification: - (Ignitable hazardous waste.)
 Origin: - (RCRA waste.)

Consult your local or regional authorities.

Section 14. Transport Information

Proper shipping name Consumer Commodity
DOT Classification ORM-D
UN number None ORM-D Other regulated materials

Section 15. Regulatory Information

U.S. Federal Regulations SARA 313 toxic chemical notification and release reporting: No products were found.
 Clean Water Act (CWA) 311: No products were found.
 Clean air act (CAA) 112 regulated toxic substances: No products were found.

State Regulations California prop. 65: No products were found.

Section 16. Other Information

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

MATERIAL SAFETY DATA SHEET

NOTICE

Thank you for your interest in, and use of, this product. Acuity Specialty Products Group is pleased to be of service to you by supplying this Material Safety Data Sheet for your files. Acuity Specialty Products Group is concerned for your health and safety. This product and all others supplied by Acuity Specialty Products Group companies can be used safely with proper protective equipment and proper handling practices consistent with label instructions and the MSDS. Before using any this product, be sure to read the complete label and the Material Safety Data Sheet.

As a further word of caution, Acuity Specialty Products Group wishes to advise that serious accidents have resulted from the misuse of "emptied" containers. "Empty" containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks, or other sources of ignition; they may explode or develop harmful vapors and possibly cause injury or death. Clean empty containers by triple rinsing with water or an appropriate solvent. Empty containers must be sent to a drum reconditioner before reuse.

TERMS AND ABBREVIATIONS Listed Alphabetically by Section

SECTION II: HAZARDOUS INGREDIENTS

CAR: Carcinogen - A chemical listed by the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC) or OSHA as a definite or possible human cancer causing agent.

CAS#: Chemical Abstract Services Registry Number - A universally accepted numbering system for chemical substances.

CBL: Combustible - At temperatures between 100°F and 200°F chemical gives off enough vapor to ignite if a source of ignition is present as tested with a closed cup tester.

CNS: Central Nervous System depressant that reduces the activity of the brain and spinal cord.

COR: Corrosive - Causes irreversible injury to living tissue (e.g. burns).

DESIGNATIONS: Chemical and common names of hazardous ingredients.

EIR: Eye Irritant Only - Causes reversible reddening and/or inflammation of eye tissues.

EXPOSURE LIMITS: The time weighted average (TWA) airborne concentration at which most workers can be exposed without any expected adverse effects. Primary sources include ACGIH TLVs, and OSHA PELs.

ACGIH: American Conference of Governmental Industrial Hygienists

CEILING: "The concentration that should not be exceeded in the workplace during any part of the working exposure." Source, ACGIH

OSHA: Occupational Safety and Health Administration.

PEL: Permissible Exposure Limit - A set of time weighted average exposure values, established by OSHA, for a normal 8-hour day and a 40-hour work-week.

PPM: Parts per million - unit of measure for exposure limits.

(S) SKIN: Skin contact with substance can contribute to overall exposure.

STEL: Short Term Exposure Limit - Maximum concentration for a continuous 15-minute exposure period.

TLV: Threshold Limit Value - A set of time weighted average exposure limits, established by the ACGIH, for a normal 8-hour day and a 40-hour work-week.

FBL: Flammable - At temperatures under 100°F, chemical gives off enough vapors to ignite if a source of ignition is present as tested with a closed cup tester.

HAZARDOUS INGREDIENTS: Chemical substances that are determined to be potential health or physical hazards based on the criteria established in the OSHA Hazard Communication Standard - 29 CFR 1910.1200

HTX: Highly toxic - the probable lethal dose for a 70 kg (150 lb.) man, which may be approximated as less than 6 teaspoons (2 tablespoons)

IRR: Irritant - Causes reversible effects in living tissues (e.g. inflammation) - primarily skin and eyes.

N/A: Not Applicable - Category is not appropriate for this product.

N/D: Not Determined - Insufficient information to make a determination for this item.

RTECS#: Registry of Toxic Effects of Chemical Substances - an unreviewed listing of published toxicology data on chemical substances.

SARA: Superfund Amendment and Reauthorization Act - Section 313 designates certain chemicals for possible reporting for the Toxic Chemical Release Inventory.

SEN: Sensitizer - Causes allergic reaction after repeated exposure.

TOX: Toxic - The probable lethal dose for a 70 kg (150 kg) man is one ounce (2 tablespoons) or more.

SECTION III: HEALTH HAZARD DATA

ACUTE EFFECT: An adverse effect on the human body from a single exposure with symptoms developing almost immediately after exposure or within a relatively short time.

CHRONIC EFFECT: Adverse effects that are most likely to occur from repeated exposure over a long period of time.

EST'D PEL/TLV: This estimated, time-weighted-average, exposure limit, developed by using a formula provided by the ACGIH, pertains to airborne concentrations from the product as a whole. This value should serve as guide for providing safe workplace conditions to nearly all workers.

HMIS CODES: Hazardous Material Identification System - a rating system developed, by the National Paint and Coating Association for estimating the hazard potential of a chemical under normal workplace conditions. These risk estimates are indicated by a numerical rating given in each of three hazard areas (Health/ Flammability/Reactivity) ranging from a low of zero to a high of 4. The presence of a chronic hazard is indicated by a "YES". Consult HMIS training guides for Personal Protection letter codes, which indicate necessary protective equipment.

PRIMARY ROUTE OF ENTRY: The way one or more hazardous ingredients may enter the body and cause a generalized systemic or specific-organ toxic effect.

ING: Ingestion - A primary route of exposure through swallowing of material.

INH: Inhalation - A primary route of exposure through breathing of vapors.

SKIN: A primary route of exposure through contact with the skin.

SECTION IV: SPECIAL PROTECTION INFORMATION

Where respiratory protection is recommended, use only MSHA and NIOSH approved respirators and dust masks.

MSHA: Mine Safety and Health Administration

NIOSH: National Institute for Occupational Safety and Health.

SECTION V: PHYSICAL DATA

EVAPORATION RATE: Refers to the rate of change from the liquid state to the vapor state at ambient temperature and pressure in comparison to a given substance (e.g. water).

pH: A value representing the acidity or alkalinity of an aqueous solution (Highly Acidic pH = 1; Neutral pH = 7; Highly Alkaline pH = 14)

VOC CONTENT: The percentage or amount in pounds per gallon of the product that is regulated as a Volatile Organic Compound under the Clean Air Act of 1990 and various state jurisdictions.

SOLUBILITY IN WATER: A description of the ability of the product to dissolve in water.

SECTION VII: REACTIVITY DATA

HAZARDOUS DECOMPOSITION: Breakdown products expected to be produced upon product decomposition by extreme heat or fire.

INCOMPATIBILITY: Keep product away from listed substances or conditions to prevent hazardous reactions.

POLYMERIZATION: Indicates the tendency of the product's molecules to combine with themselves in a chemical reaction releasing excess pressure and heat.

STABILITY: Indicates the susceptibility of the product to decompose spontaneously and dangerously.

SECTION VIII: SPILL AND DISPOSAL PROCEDURES

RCRA WASTE NOS: RCRA (Resource Conservation and Recovery Act) waste codes (40 CFR 261) applicable to the disposal of spilled or unusable product from the original container.

SECTION X: TRANSPORTATION DATA

CWA: Clean Water Act - Federal law that regulates chemical releases to bodies of water.

RQ: Reportable Quantity - The amount of the specific ingredient that, when spilled to the ground and, can enter a storm sewer or natural watershed, must be reported to the National Response Center, and other regulatory agencies.

TSCA: Toxic Substances Control Act - A federal law requiring all commercial chemical substances to appear on an inventory maintained by the EPA.

DISCLAIMER

All statements, technical information, and recommendations contained herein are based on available scientific tests or data that we believe to be reliable. The accuracy and completeness of such data are not warranted or guaranteed. We cannot anticipate all conditions under which this information and our products, or the products of other manufacturers in combination with our products, may be used. Acuity Specialty Products Group assumes no liability or responsibility for loss or damage resulting from the improper use or handling of our products, from incompatible product combinations, or from the failure to follow instructions, warnings, and advisories in the product label and Material Safety Data Sheet

(rev 06/02)