PRODUCT NAME: ORANGE KLEEN

MSDS NUMBER: 02112

DATE ISSUED: 05/01/2006

SUPERSEDES: 11/01/2004

ISSUED BY: Value Products, Inc.

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Material Safety Data Sheet

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: ORANGE KLEEN
Product Code: 02112
Synonyms: Citrus Stripper Oil, Terpene Hydrocarbons

Company:
Value Products, Inc.
2128 Industrial Drive,
Stockton, CA 95206

For emergencies, call Chemtrec anytime at 1-800-424-9300.
Outside US, call Chemtrec Collect at 703-527-3887.

SECTION 2: HAZARDS IDENTIFICATION

Emergency Overview
Appearance/Odor: Colorless to pale yellow liquid with citrus aroma.

Product is Combustible.

Slippery when spilled.

Potential Health Effects: See Section 11 for more information.

Likely Routes of Exposure: Eye contact, skin contact, inhalation.

Eye: Causes moderate to severe irritation.

Skin: May cause slight redness. Prolonged or repeated exposure may cause drying of the skin.

Inhalation: May cause nose, throat, and respiratory tract irritation, coughing, headache.

Ingestion: Not likely to be toxic, but may cause vomiting, headache, or other medical problems.

Medical Conditions Aggravated By Exposure: May irritate the skin of people with pre-existing skin conditions.
This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC, ACGIH or NTP.

OSHA Regulatory Status
This material is combustible, which is defined as having a flash point between 100 deg F (37.8 deg C) and 200 deg F (93.3 deg C). Combustible materials are hazardous according to the OSHA Hazard Communication Standard (29 CFR 1910.1200).

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS #	% by Wt.
Citrus Terpenes	94266-47-4	100

SECTION 4: FIRST AID MEASURES

Eye Contact: Remove contact lenses at once. Flush with water for at least 15 minutes. If irritation persists, seek medical attention.

Skin Contact: Wash affected area with copious amounts of soap and water. If irritation develops, seek medical attention.

Inhalation: If symptoms of overexposure are experienced, move to fresh air. If symptoms persist. seek medical attention.

Ingestion: Seek medical attention immediately. DO NOT induce vomiting. Rinse mouth with water. DO NOT administer anything by mouth to an unconscious person. DO NOT leave victim unattended.

General: As with any chemical, employees should thoroughly wash hands with soap and water after handling this material.

SECTION 5: FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Carbon dioxide, foam or dry chemical. Caution: Carbon dioxide will displace air in confined spaces and may create an oxygen deficient atmosphere.

Unsuitable Extinguishing Media: Water.

Products of Combustion: Forms acrid fumes, carbon monoxide, and carbon dioxide.

Protection of Firefighters: Vapors may be irritating to eyes, skin and respiratory tract. Firefighters should wear self-contained breathing apparatus (SCBA) and full fire-fighting turnout gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Use personal protection recommended in Section 8. Product is slippery when spilled. Isolate the hazard area. Deny entry to unnecessary and unprotected personnel.

Environmental Precautions: Keep out of drains, sewers, ditches and waterways.

Methods for Containment: Dike spill area and cap leaking containers as necessary to prevent further spreading of spilled material. Absorb spilled liquid with suitable material such as dirt or sand.

Methods for Clean Up: Eliminate all ignition sources. Use equipment rated for use around combustible materials. Oil soaked rags may spontaneously combust; place in appropriate disposal container.

Other Information: There are no special reporting requirements for spills of this material.

SECTION 7: HANDLING AND STORAGE

Handling
Keep away from heat, sparks, and flame. Open container slowly to release pressure caused by temperature variations. Do not allow this material to come in contact with eyes. Avoid prolonged contact with skin. Use in well ventilated areas. Do not breathe vapors. Drum lining may occasionally chip and fall to the bottom of container; product should be filtered or strained before blending or repackaging. As with any chemical, employees should thoroughly wash hands with soap and water after handling this material.

Storage
Product may be packaged in phenolic-lined steel containers or fluorinated plastic containers. Store in well ventilated area with proper sprinkler/fire deterrent system. Storage temperature should not exceed the flash point for extended periods of time. Keep container closed when not in use. Air should be excluded from partially filled containers by displacing with nitrogen or carbon dioxide. Do not cut, drill, grind or weld on or near this container; residual vapors may ignite.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines
d-Limonene 8h TWA=30 ppm (AIHA Standard)

TWA Time Weighted Average

Engineering Controls: Provide ventilation. Keep away from sparks and flames.

Eye/Face Protection: Wear safety glasses or goggles.

Skin Protection: Nitrile gloves are recommended. Boots, apron, or bodysuit should be worn as necessary.

Respiratory Protection: Not normally required. If adequate ventilation is unavailable, use NIOSH approved air-purifying respirator with organic vapor cartridge or canister.

General Hygiene Considerations: Wash hands thoroughly after handling. Have eyewash and emergency shower facilities immediately available. Launder contaminated clothing before reuse.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Color: Colorless to pale yellow.
Odor: Citrus aroma.
Physical State: Liquid.
Boiling Point: 349 deg F (176 deg C)
Melting Point: -140 deg F(-96 deg C), thickens at -108T(-78 deg C)
Specific Gravity: 0.838 to 0.843 @ 68 deg F (20 deg C)
Refractive Index: 1.471 to 1.474 Optical Rotation: +96 deg to +104'
Vapor Pressure: <2mmHg @ 68 deg F (20 deg C)
Flash Point (CCCFP): >110 deg F (43 deg C)
Flammable Limits: LEL approx. 0.7%, UEL approx. 6.1%
Autoignition
Temperature: 458 deg F (237 deg C)
Solubility in Water: Insoluble Evaporation Rate: 0.2(BuAc=1)
Volatile Organic Compound
(VOC) Content: >95% by volume.

Note: These specifications represent a typical sample of this product, but actual values may vary. Certificates of Analysis and Specification Sheets are available upon request.

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Conditions to Avoid: Keep away from heat, sparks and flames.

Incompatible Materials: Strong oxidizing agents and strong acids, including acidic clays, peroxides, halogens, vinyl chloride, and iodine pentafluoride.

Hazardous Decomposition Products: Oxides of citrus terpenes, which can result from improper storage and handling, are known to cause skin

sensitization.

Possibility of Hazardous Reactions: To prevent oxidation, avoid long-term exposure to air. If storing partially filled container, fill headspace with an inert gas such as nitrogen or carbon dioxide.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Effects
Citrus terpenes have been shown to have low oral toxicity (LD50>5 g/kg) and low dermal toxicity (LD50> 5g/kg) when tested on rabbits. Citrus terpenes also showed low toxicity by inhalation (RD50>1 g/kg) when tested on mice. The skin irritancy of limonene in guinea pigs and rabbits is considered moderate and low, respectively. Inhalation may cause irritation of the nose, throat, and respiratory tract.

Chronic Effects
This product is not classified as a carcinogen by OSHA, IARC, ACGIH or NTP. This product has not been shown to produce genetic changes when tested on bacterial or animal cells. This product does not contain known reproductive or developmental toxins. Prolonged or repeated exposure can cause drying or dermatitis of skin. Improper storage and handling may lead to the formation of a possible skin sensitizer.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity: There is no information available at this time for this product. However, a spill may produce significant toxicity to aquatic organisms and ecosystems. Some studies have shown that certain bacteria and fungi have the ability to degrade terpenes, decreasing their toxicity to fish. When spilled, this product may act as an oil, causing a film, sheen, emulsion or sludge at or beneath the surface of a body of water.

Persistence/Degradability: Product is expected to be readily biodegradable.

Bioaccumulation/Accumulation: No appreciable bioconcentration is expected in the environment.

Mobility in Environment: Citrus terpenes volatilize rapidly.

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal: Incinerate or dispose of in accordance with Local, State, and Federal Regulations. Taking regulations into consideration, waste may be incinerated or handled through EPA Spill Control Plan via landfill or dilution. Commercially clean containers prior to disposal. Oil soaked rags should be disposed of properly to prevent spontaneous combustion.

SECTION 14: TRANSPORT INFORMATION

US DOT Shipping Classification

Proper Shipping Name: TERPENE HYDROCARBONS, N.O.S
Hazard Class: 3
Identification No.: UN2319
Packing Group: III
Label/Placard: exception §173.150(f) applies.

TDG Status: Hazardous
IMO Status: Hazardous
IATA Status: Hazardous

The listed transportation classification does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptions.

SECTION 15: REGULATORY INFORMATION

Global Inventories

This product is included in the following inventories:
USA (TSCA) Korea (KECL)
Canada (DSL) Philippines (PICCS)
Europe (EINECS/ELINCS/Polymer/NLP) Japan (ENCS)
Australia (AICS)

The United States FDA lists d-limonene as GRAS in 21 CFR section 182.20 and 182.6.

d-Limonene is a 100% natural, biodegradable product extracted from the peel of citrus fruit.

Proposition 65 - California Safe Drinking Water and Toxic Enforcement Act of 1986
This product is not known to contain any chemicals currently listed as carcinogens or reproductive toxins under California Proposition 65 at levels which would be subject to the proposition.

SARA Title III (Section 313)
This substance contains no materials subject to the reporting requirements of SARA Title III (Section 313).

SECTION 16: OTHER INFORMATION

NFPA 704: National Fire Protection Association
Health 1 (slight hazard) Fire 2 (moderate hazard)
Reactivity 0 (minimal hazard)

EINECS Number: 304-454-3

d-Limonene is the major component of citrus terpenes, with the balance consisting of other terpene hydrocarbons and oxygenated compounds - octanal,

myrcene, alpha-pinene, linalool predominant. d-Limonene is a by-product of citrus, entirely of natural origin, and to the best of our knowledge contains no artificial flavors, sulfites, nitrites, or pesticide residue exceeding tolerances established by the FDA. d-Limonene does NOT contain lead, cadmium, mercury, or hexavalent chromium or come in contact with these chemicals since it is an citrus derived essential oil produced by steam/vacuum distillation. Further, d-Limonene is packaged in food grade containers with inert liners that do NOT contain lead, cadmium, mercury, or hexavalent chromium. Cl-Limonene does NOT contain and is NOT manufactured with any of the Class I or II ozone-depleting substances listed under the United States Clean Air Act of 1990.

PACKAGING

d-Limonene is packaged in phenolic-lined containers as follows:

1-Gallon Pail	7 Pounds Net Weight	3.2 kg Net Weight
5-Gallon Pail	35 Pounds Net Weight	16 kg Net Weight
55-Gallon Drum	390 Pounds Net Weight	177 kg Net Weight

Drums are typically orange or black DOT approved steel drums coated with a phenolic resin liner. All drums of our domestic d-Limonene are filled to a net weight of 390 lbs. Dimensions of 55-gallon drums are: diameter 23" and height 35". Imported drums of Brazilian d-Limonene vary slightly in net weight - weight should be verified when ordering. Tank truck shipments average 6500 gallons (45,000 lbs.). Overseas ISO tank shipments are either 20,000 liters (16,800 kg) or 24,000 liters (20,160 kg). Sample quantities (gallons & pints) are packaged in fluorinated plastic containers or glass (1 oz. samples).

Legend

ACIGH American Conference of Governmental Industrial Hygienists
GRAS Generally Recognized as Safe
AIHA American Industrial Hygiene Association
IARC International Agency for Research on Cancer
BHT Butylated Hydroxytoluene
NIOSH National Institute for Occupational Safety and Health
EPA United States Environmental Protection Agency
NTP National Toxicology Program
FDA United States Food and Drug Administration
OSHA United States Occupational Health and Safety Administration

Caution: The user should conduct his/her own experiments and establish proper procedures and control before attempting use on critical parts.

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