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PRODUCT IDENTIFICATION

PRODUCT NAME: CITRUS CLEAN

NSDS#: P12355VS

DATE ISSUED: 8/15/2000

SUPERSEDES: 3/11/1997

ISSUED BY: 005084

SECTION I IDENTIFICATION

Trade Name **CITRUS CLEAN - TECHNICAL TRADE, FOOD GRADE, LEMON-LIME GRADE CAS** Number: 5989-27-5
 Technical grade and lemon-lime grade
 94266-27-4 food grade
 68647-72-3 orange terpenes

SECTION 2 HAZARDOUS COMPONENTS

Volatile ingredients: D-Limonene (solvent) is the major component (technical grade 95%, food grade 96%, lemon-lime 70%) with balance
 other terpene hydrocarbons and oxygenated compounds - octanal, nonanal, decanal, linalool predominant. Product is a by-product of citrus
 entirely of natural origin, and to the best of our knowledge and belief contains no artificial flavors, sulfites, nitrites, or pesticide residue exceeding tolerances established by the FDA,. Citrus Clean does NOT contain lead, cadmium, mercury, or hexavalent chromium or come
 in contact with these chemicals since it is a citrus derived essential oil produced by steam distillation. Further, Citrus Clean is packaged
 in food grade containers with inert liners that do NOT contain lead, cadmium, mercury, or hexavalent chromium Citrus Clean 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.

Hazardous Materials Identification System - EMIS:

I Health Hazard Mild skin irritant

2 Flammability Flashpoint above 100°F

0 Reactivity - Stable

G Protection - Safety glasses. *gloves*, & respirator recommended

SECTION 3 PHYSICAL DATA

	Technical Grade	Food Grade	Lemon-Lime Grade	Appearance
oil	Water-white	oil	Water-white	oil
Odor	Strong orange	aroma	Mild orange	aroma
	Mild lemon-time	aroma	Specific Gravity (25 C)	0.838 - 0.843
	0.838 - 0.843	0.841 - 0.848	Refractive Index (20 C)	1.4710 - 1.4740
	1.4710 - 1.4740	1.4710 - 1.4740	1.470 - 1.4770	
Optical Rotation (25 C)	+96 - +104	+96-+104	+7U-+75	
Flashpoint (cc)	lisp 113 F	119 p		
Boiling Point	310 p	325 F	332 F	
Evaporation Rate	Medium/Fast	Medium/Past	Medium/Fast	
Water Solubility	Insoluble	Insoluble	Insoluble	
Vapor Pressure (20 C)	2mmHg	2mmHg	2mmHg	
Percent Volatile by Volume	95+%	95+-%	95+-%	

Section IV **Fire** and Explosion Hazard Data

Flash Point (cc): 115 F, 113 F, 119 T (Technical grade, Food grade, Lemon-Lime grade respectively)

Flammable Limits: LEL = 0.7% UEL = 6.1 % (Identified for Technical grade only)

Extinguishing Media: Carbon dioxide, foam or dry chemical

Special Fire Fighting Procedures: SCEA recommended. Smother to exclude air. Do not use water. Handle as an oil fire.
Unusual Fire and Explosive Hazards: Combustible liquid. Keep away from heat, sparks, and open flame. Guard against spontaneous combustion of improperly discarded oily rags.

Incompatibility (Materials to avoid): Strong oxidizing agents and acidic agents including acidic clays, peroxides, halogens, vinyl chloride, and iodine pentafluoride.
Hazardous Decomposition Materials: Smoke may be acrid and fume irritating. Burning generates CO, CO₂, and smoke.
Hazardous Polymerization: None described
Conditions to Avoid for Polymerization: Polymerization catalysts such as aluminum chloride and acidic clays.
Stability Considerations: Stable
Conditions to Avoid for Stability: Avoid temperatures over 115 P

Section V Health Hazard Data

Health Hazards (Acute and Chronic): Product is harmful if swallowed. Ingestion may cause vomiting, headache, and other medical problems. May be irritating to skin and eyes, Skin contact may cause slight redness. Contains a potential skin sensitizer. Eye contact can cause moderate to high irritation. Inhalation can cause nose, throat, and respiratory tract irritation, coughing and headache.
Prolonged or repeated exposure can cause drying, defatting, and dermatitis of skin.
Signs and Symptoms of Exposure: Product may be irritating to the skin, eyes, nose and throat.
Medical Conditions Generally Aggravated by Exposure: Persons with allergies or pre-existing skin conditions should avoid contact with this product.

Emergency & First Aid Procedures

Eyes: Remove contact lenses at once. Flush with water for at least 15 minutes. If irritation persists, seek medical attention.
Skin: Wash affected area with copious amounts of soap and water. If irritation develops, seek medical attention.
Ingestion: Seek medical attention immediately. Do not induce vomiting. Rinse mouth with water, then drink one glass of water. Do not leave victim unattended. Never give anything by mouth if victim is unconscious, is rapidly losing consciousness, or is convulsing. Inhalation: If symptoms of overexposure are experienced, evacuate to fresh air. If symptoms persist, seek medical attention.

Section VI - TOXICOLOGICAL DATA

Acute Eye Irritation: Eye irritation, rabbit. Severely irritating.
Acute Skin Irritation: Skin irritation, rabbit, Severely irritating. Acute Dermal Toxicity: LD50 - >5 g/kg, rabbit.
Acute Respiratory Irritation: No test data found for product.
Acute Inhalation Toxicity: No test data found for product.
Acute Oral Toxicity: LD50 - >5 g/kg, rat.
Chronic Toxicity: This product does not contain any substances that are considered by OSHA, NTP, IARC or ACGIS to be "probable" or "suspected" human carcinogens.
Ecotoxicological Information: Product may be toxic to aquatic organisms

Section VII - SPILL OR LEAK

PROCEDURES

Steps to be Taken if Material is Released or Spilled: Use protective gloves to avoid skin contact. Small spills can be wiped up. Large spills should be absorbed by dirt, sand, or other suitable absorbents for

disposal. Do not hose spills down drains, sewers, or waterways. D-Limonene may be toxic to aquatic organisms. Move leaking containers to well ventilated area. No smoking. Eliminate any source of ignition. Minimize inhalation. Use NIOSE approved respiratory protection device. CAUTION: slippery on floor.

Waste Disposal Method: Incinerate or Dispose in Accordance with Local, State, and **Federal** Regulations. Taking regulations into consideration, waste may **be** incinerated or handled through **EPA**. spill control plan via land fill or dilution.

Section VIII - SPECIAL PROTECTION INFORMATION

Respiratory Protection: Not normally required. If vapor concentration becomes high, use NIOSH approved respirators.

Ventilation: Local exhaust should be adequate. Mechanical ventilation otherwise recommended if necessary.

Eye Protection: Safety goggles or glasses suggested

Skin Protection: Oil resistant gloves.

Other Protective Equipment: Oil resistant apron, emergency eye wash and shower stations.

Appropriate Hygienic Practices: Wash thoroughly after handling. Launder contaminated clothing before re-use.

Section IX - SPECIAL PRECAUTIONS

Precautions to be Taken in Handling and Storing: Usual Precautions for combustible liquids.

Handling and Storage Precautions: Store in sprinkled warehouse. Avoid contact with incompatible chemicals listed in Section IV.

Store in tightly sealed, full containers at temperatures below 70F. Partially filled containers should be blanketed with nitrogen.

Other Precautions: Product may expand slightly in storage causing pressure to build in container. Open container carefully if product appears to be under pressure. Drum lining may occasionally chip and fall to bottom of container after long storage or excessive 'handling

.Ls a precaution, pour liquid through filter/strainer to catch small pieces of liner before blending or repackaging. Commercially clean

empty containers before re-use. CAUTION: Do not weld or cut empty containers (Vapors May Ignite).

Section X - REGULATORY INFORMATION

Inventory	Status
United States (TSCA)	Listed on the inventory. Canada (DSL)
Listed on the inventory. European Union (EINECS)	Listed on the inventory.
Listed on the inventory. Australia (AICS)	Listed on the inventory.
Japan (MITI)	Listed on the inventory. South Korea
(KECL)	Listed on the inventory

Section XI - TRANSPORTATION INFORMATION

The listed Transportation Classification does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors.

TDG Status:

Hazardous INO Status:

Hazardous **IATA** Status:

Hazardous

SHIPPING CLASSIFICATION:

Proper Shipping Name: TERPENE HYDROCARBONS, N.O.S Hazard

Class: 3

Identification No.: UN2319

Packing Group: III

DOT Label/Placard (exemption 173.150(f) applies):
Highway/Rail per requirements for combustibile liquids
Air/Ship per requirements for flammable liquids

Section **XII** - ADDITIONAL INFORMATION

National Fire Protection Association Hazard Ratings - NFPA(R):
Health Hazard - Slight 0
2 Flammability - Moderate
0 Reactivity - Minimal

Key Legend Information:

ACGIH American Conference of Governmental Industrial Hygienists
OSHA Occupational Safety and Health Administration
NTP National Toxicology Program
IARC International Agency for Research on Cancer

----- FOR ADDITIONAL INFORMATION -----

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