



SAFETY DATA SHEET

24 Hour Emergency Telephone No. (Chemtrec) 1-800-424-9300
The emergency number should be used only in the event of an emergency involving a spill, leak, fire, exposure or accident with hazardous materials.

I. PRODUCT AND COMPANY IDENTIFICATION

Trade Name: Grapefruit Essence Oil Product Code: BP4100
Manufacturer Name: Rio Grande Juice Company
Manufacturer Address: 702 E. Interstate Hwy 2
Mission, TX 78572
Manufacturer Phone: 956 598 6800 Manufacturer Fax: 956 598 6801

II. HAZARDS IDENTIFICATION

OSHA Hazards

Combustible Liquid, Target Organ Effect, Skin sensitizer, Irritant

Target Organ: Kidney

GHS Classification

Flammable liquids (Category 3)
Acute toxicity, Oral (Category 5)
Skin irritation (Category 2)
Eye irritation (Category 2A)
Skin sensitization (Category 1)
Acute aquatic toxicity (Category 1)

GHS Label elements, including precautionary statements



Signal word: Danger

Hazard statement(s)

H226 Flammable liquid and vapor.
H303 May be harmful if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H400 Very toxic to aquatic life.

Precautionary statement(s)

P273 Avoid release to the environment.
P280 Wear protective gloves.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

HMIS Classification:

HEALTH	2 *
FIRE	2
PHYSICAL	0

NFPA Rating:

HEALTH	2
FIRE	2
REACTIVITY	0

Potential Health Effects

Inhalation May be harmful if inhaled. Causes respiratory tract irritation.
Skin May be harmful if absorbed through skin. Causes skin irritation.
Eyes Causes eye irritation.



Ingestion May be harmful if swallowed.

III. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Citrus Essence Oil, GEO, Terpene Hydrocarbons
Formula : $C_{10}H_{16}$
Molecular Weight : 136.23 g/mol

Name	Concentration (Range)	CAS #	EC #
d-Limonene	90-100%	5989-27-5	227-813-5

IV. FIRST AID MEASURES

General advice:

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled:

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact:

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact:

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed:

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

V. FIREFIGHTING MEASURES

Conditions of flammability

Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.

Suitable extinguishing media

Use dry chemical or carbon dioxide.

Special protective equipment for firefighters

Wear self contained breathing apparatus for firefighting if necessary.

Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Further information

Use water spray to cool unopened containers

VI. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

VII. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage



VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Citrus Terpenes 8h TWA=30ppm (AIHA Standard)

TWA = Time Weighted Average

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

XI. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form: liquid

Color: colorless to translucent red/orange

Odor: citrus aroma

Safety data

Melting point/freezing point:	-96°C (-140°F)
Boiling point:	176 - 177 °C (349 - 351 °F)
Flash point:	38 °C (100 °F) - closed cup
Autoignition temperature:	237°C (458°F)
Lower explosion limit:	0.7 %(V)
Upper explosion limit:	6.1 %(V)
Vapor pressure:	< 2 mmHg at 20 °C (68 °F)
Density:	0.840 to 0.849 at 20 °C (68 °F)
Refractive Index:	1.4720 to 1.4740 at 20 °C (68 °F)
Water solubility:	Negligible

X. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

To prevent oxidation prevent long term exposure to air. If storing in a partially filled container, fill headspace with an inert gas such as nitrogen.

Conditions to avoid

Heat, flames and sparks.

Materials to avoid

Strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides



Other decomposition products - no data available

XI. TOXICOLOGICAL INFORMATION

Acute Effects

Citrus terpenes have been shown to have low oral toxicity ($LD_{50} > 5 \text{ g/kg}$) and low dermal toxicity ($LD_{50} > 5 \text{ g/kg}$) when tested on rabbits. Citrus terpenes also showed low toxicity by inhalation ($RD_{50} > 1 \text{ g/kg}$) 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.

XII. 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.

XIII. DISPOSAL CONSIDERATIONS

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

XIV. TRANSPORT INFORMATION

DOT (US)

UN number: 1197 Class: 3 Packing group: III
Proper shipping name: EXTRACTS, FLAVOURING, LIQUID
Marine pollutant: Marine pollutant: Dipentene
Poison Inhalation Hazard: No
ERG No: 127

IMDG

UN number: 1197 Class: 3 Packing group: III EMS-No: F-E, S-D
Proper shipping name: EXTRACTS, FLAVOURING, LIQUID
Marine pollutant: Marine pollutant: Dipentene

IATA

UN number: 1197 Class: 3 Packing group: III
Proper shipping name: EXTRACTS, FLAVOURING, LIQUID

XV. REGULATORY INFORMATION

The United States FDA lists Grapefruit Essence Oil as GRAS in 21 CFR sections 182.20 and 182.6. (GRAS# 2530)

Grapefruit Essence Oil is a 100% natural, biodegradable product 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).

XVI. Other Information

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No health hazards data exists for daily occupational exposure to this mixture. When used at recommended levels in flavor applications, this mixture has been determined to be generally recognized as safe (GRAS) in safety review by the Flavor and Extract Manufacturer's Association of the United States (FEMA) under the authority of section 201(s) of the Federal Food, Drug and Cosmetic Act.