

MATERIAL SAFETY DATA SHEET: SIMPLE GREEN® RTU

I. PRODUCT & COMPANY INFORMATION

PRODUCT NAME: SIMPLE GREEN® ALL-PURPOSE READY-TO-USE CLEANER

COMPANY NAME: SUNSHINE MAKERS, INC.
15922 Pacific Coast Highway
Huntington Harbour, CA 92649 USA
Telephone: 800-228-0709 • 562-795-6000
Fax: 562-592-3034
Website: www.simplegreen.com

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For 24-hour emergency, call Chem-Tel, Inc.: 800-255-3924

USE OF PRODUCT: A ready to use cleaning product that can be used undiluted on any water-safe surface.

II. INGREDIENT INFORMATION

The only ingredient of Simple Green® RTU with established exposure limits is undiluted 2-butoxyethanol (<1%) (Butyl Cellosolve; CAS No. 111-76-2): the ACGIH TLV-TWA is 20 ppm (97 mg/m³).

Based upon chemical analysis, Simple Green® RTU contains no known EPA priority pollutants, heavy metals, or chemicals listed under RCRA, CERCLA, or CWA. Analysis by TCLP (Toxicity Characteristic Leaching Procedure) according to RCRA revealed no toxic organic or inorganic constituents.

All components of Simple Green® RTU are listed on the TSCA Chemical Substance Inventory.

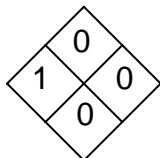
III. HAZARDS IDENTIFICATION

UN Number: Not required
Dangerous Goods Class: Nonhazardous

NJ TRADE SECRET REGISTRATION NUMBERS
80100235-5000p 80100235-5005p
80100235-5001p 80100235-5006p
80100235-5002p 80100235-5007p
80100235-5003p 80100235-5008p
80100235-5004p 80100235-5009p

Hazard Rating (NFPA/HMIS)

Health = 1* Reactivity = 0
Fire = 0 Special = 0



Rating Scale

0 = minimal 1 = slight
2 = moderate 3 = serious
4 = severe

*Mild eye irritant, non-mutagenic and non-carcinogenic. **None of the ingredients in Simple Green® RTU are regulated or listed as potential cancer agents by Federal OSHA, NTP, or IARC.**

IV. FIRST AID MEASURES

SYMPTOMS OF OVEREXPOSURE AND FIRST AID TREATMENT

- Eye contact: Reddening may develop. Immediately rinse the eye with large quantities of cool water; continue 10-15 minutes or until the material has been removed; be sure to remove contact lenses, if present, and to lift upper and lower lids during rinsing. Get medical attention if irritation persists.
- Skin contact: Minimal effects, if any; rinse skin with water, rinse shoes and launder clothing before reuse. Reversible reddening may occur in some dermal-sensitive users; thoroughly rinse area and get medical attention if reaction persists.
- Swallowing: Essentially non-toxic. Give several glasses of water to dilute; do not induce vomiting. If stomach upset occurs, consult physician.
- Inhalation: Non-toxic. Exposures to concentrate-mist may cause mild irritation of nasal passages or throat; remove to fresh air. Get medical attention if irritation persists.
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V. FIRE FIGHTING MEASURES

Simple Green® RTU is stable, not flammable, and will not burn.

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|-----------------------------------|---|
| Flash Point/Auto-Ignition: | Not flammable. |
| Flammability Limits: | Not flammable. |
| Extinguishing Media: | Not flammable/nonexplosive. No special procedures required. |
| Special Fire Fighting Procedures: | None required. |
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VI. ACCIDENTAL RELEASE MEASURES

Recover usable material by convenient method; residual may be removed by wipe or wet mop. If necessary, unrecoverable material may be washed to drain with large quantities of water.

VII. HANDLING, STORAGE & TRANSPORT INFORMATION

No special precautions are required. **This product is non-hazardous for storage and transport according to the U.S. Department of Transportation Regulations.** Simple Green® requires no special labeling or placarding to meet U.S. Department of Transportation requirements.

UN Number: Not required

Dangerous Goods Class: Non-hazardous

VIII. EXPOSURE CONTROLS

Exposure Limits: The Simple Green® RTU formulation presents no health hazards to the user when used according to label directions for its intended purposes. Mild skin and eye irritation is possible (please see Eye contact and Skin contact in Section IV.).

Ventilation: No special ventilation is required during use.

Human Health Effects or Risks from Exposure: Adverse effects on human health are not expected from Simple Green® RTU based upon twenty years use of concentrated Simple Green® without reported adverse health incidence in diverse population groups, including extensive use by inmates of U.S. Federal prisons in cleaning operations.

Simple Green® RTU is a mild eye irritant; mucous membranes may become irritated by concentrate-mist.

Simple Green® RTU is not likely to irritate the skin in the majority of users. Repeated daily application to the skin without rinsing, or continuous contact of Simple Green® RTU on the skin may lead to temporary, but reversible, irritation.

Medical Conditions Aggravated by Exposure: No aggravation of existing medical conditions is expected; dermal sensitive users may react to dermal contact by Simple Green® RTU.

IX. PERSONAL PROTECTION

Precautionary Measures:	No special requirements under normal use conditions.
Eye Protection:	Caution, including reasonable eye protection, should always be used to avoid eye contact where splashing may occur.
Skin Protection:	No special precautions required; rinse completely from skin after contact.
Respiratory Protection:	No special precautions required.
Work and Hygienic Practices:	No special requirements. Wash or rinse hands before touching eyes or contact lenses.

X. PHYSICAL AND CHEMICAL PROPERTIES

Appearance/odor:	Translucent light green liquid with characteristic sassafras odor.		
Specific Gravity:	1.0257	Vapor Pressure:	17 mm Hg @ 20 °C; 22 mm Hg @ 25 °C
pH of RTU:	8.8	Vapor Density:	1.3 (air = 1)
Evaporation:	>1 (butyl acetate = 1)	Density:	8.5 lbs./gallon
Boiling Point:	110 °C (231 °F)		
Freezing Point:	-9 °C (16 °F) If product freezes, it will reconstitute without loss of efficacy when brought back to room temperature and agitated.		
VOC Composite Partial Pressure:	0.006 mm Hg @ 20 °C		
Volatile Organic Compounds (VOCs):	RTU contains less than 8 g/L VOC per EPA Method 24 and does not require dilution to comply with CARB, SCAQMD, or BAAQMD rules.		
Water Solubility:	Completely soluble in water.		
Ash Content:	At 600 °F: 1.86% by weight.		
Nutrient Content:	Nitrogen: <0.5% by weight (fusion and qualitative test for ammonia). Phosphorus: 0.03% by formula. Sulfur: 0.07% by weight (barium chloride precipitation method).		

Detection: Simple Green® RTU has a characteristic sassafras odor that is not indicative of any hazardous situation.

XI. STABILITY AND REACTIVITY INFORMATION

Nonreactive. Simple Green® RTU is stable, even under fire conditions, and will not react with water or oxidizers. Hazardous polymerization will not occur.

XII. TOXICOLOGICAL INFORMATION

Nonhuman Toxicity

Acute Mortality Studies:

Oral LD₅₀ (rat): >5.0 g/kg body weight // Dermal LD₅₀ (rabbit): >2.0 g/kg body weight

Dermal Irritation: Only mild, but reversible, irritation was found in a standard 72-hr test on rabbits. A value of 0.2 (non-irritating) was found on a scale of 8. RTU would be even less irritating.

Eye Irritation: With or without rinsing with water, the irritation scores in rabbits at 24 hours did not exceed 15 (mild irritant) on a scale of 110. RTU would be far less irritating.

Subchronic dermal effects: No adverse effects, except reversible dermal irritation, were found in rabbits exposed to Simple Green® (up to 2.0 g/kg/day for 13 weeks) applied to the skin of 25 males and 25 females. Only female body weight gain was affected. Detailed microscopic examination of all major tissues showed no adverse changes. RTU would be far less irritating.

Fertility Assessment by Continuous Breeding: The Simple Green® formulation had no adverse effect on fertility and reproduction in CD-1 mice with continuous administration for 18 weeks, and had no adverse effect on the reproductive performance of their offspring. RTU would also have no adverse effect.

XIII. BIODEGRADABILITY AND ENVIRONMENTAL TOXICITY INFORMATION

Biodegradability - Simple Green® RTU would be classified as Readily Biodegradable based on the following test data:

Simple Green® is readily decomposed by naturally occurring microorganisms. The biological oxygen demand (BOD), as a percentage of the chemical oxygen demand (COD), after 4, 7, and 11 days was 56%, 60%, and 70%, respectively. Per OECD Closed Bottle Test, Simple Green® meets OECD and EPA recommendations for ready biodegradability.

In a standard biodegradation test with soils from three different countries, Butyl Cellosolve reached 50% degradation in 6 to 23 days, depending upon soil type, and exceeded the rate of degradation for glucose which was used as a control for comparison.

Environmental Toxicity Information – Simple Green® RTU would demonstrate even lower aquatic toxicity than the information below:

Simple Green® is considered practically non-toxic per EPA's aquatic toxicity scale. Simple Green® is non-lethal to any of the marine and estuarine test animals listed in the following table at concentrations below 200 mg/L (0.02%). This table shows the Simple Green® concentrations that are likely to be lethal to 50% of the exposed organisms.

	<u>LC₅₀ in mg/L (ppm)</u>	
	<u>48-hour</u>	<u>96-hour</u>
<u>Marine Fish:</u>		
Mud minnow (<i>Fundulus heteroclitus</i>)	1690	1574
Whitebait (<i>Galaxias maculatus</i>)	210	210
<u>Marine/Estuarine Invertebrates:</u>		
Brine Shrimp (<i>Artemia salina</i>)	610	399
Grass Shrimp (<i>Palaemonetes pugio</i>)	270	220
Green-lipped Mussel (<i>Perna canaliculus</i>)	220	220
Mud Snail (<i>Potamopyrgus estuarinus</i>)	410	350

XIV. DISPOSAL CONSIDERATIONS

Simple Green® RTU is fully water soluble and biodegradable and will not harm sewage-treatment microorganisms if disposal by sewer or drain is necessary. Dispose of in accordance with all applicable local, state, and federal laws.

XV. OTHER INFORMATION

- Containers: Simple Green® RTU residues can be completely removed by rinsing with water; the container may be recycled or applied to other uses.
- Electrical Wiring Compatibility: Polyimide insulated wiring is not affected by exposure to Simple Green® RTU. After immersion in Simple Green® for 14 days at 74°F, the 61 cm piece of polyamide insulated wire passed a one minute dielectric proof test at 2500 volts (ASTM D-149).
- Contact Point: Sunshine Makers, Inc., Research and Development Division: 562-795-6000.

*** NOTICE ***

All information appearing herein is based upon data obtained by the manufacturer and recognized technical sources. Judgments as to the suitability of information herein for purchaser's purposes are necessarily purchaser's responsibility. Therefore, although reasonable care has been taken in the preparation of this information, Sunshine Makers, Inc. or its distributors extends no warranties, makes no representations and assumes no responsibility as to the suitability of such information for application to purchaser's intended purposes or for consequences of its use.