

MATERIAL SAFETY DATA SHEET

NFPA RATING: Health = 2 Flammability = 2 Reactivity = 0

HMS RATING: Health = /2 Flammability = 2 Reactivity = 0

SECTION I – IDENTITY AND MANUFACTURER'S INFORMATION (507N-47A)

Manufacturer's Name: HILLYARD INDUSTRIES

Product Name: CITRUS-SCRUB 90

Address: 302 North Fourth Street
St. Joseph, MO 64501

Date Prepared: September 15, 2004

Prepared by: Regulatory Affairs Department

Emergency Telephone (800) 424-9300 (Only in the event of chemical emergency involving a spill, leak, fire, exposure or accident involving chemicals.)

Other information calls: (816) 233-1321 (Ext. 8285)

<http://www.hillyard.com>

SECTION II – INGREDIENTS/IDENTITY INFORMATION**Components**

(Specific Chemical Identity:

Common Name(s)	CAS#	OSHA PEL	ACGIH TLV	OTHER LIMITS	
				RECOMMENDED	%
d-Limonene	5989-27-5	not established	not established	N.A.	86-91
Water	7732-18-5	none	none	N.A.	---
Nonyl Phenol Ethoxylate	9016-45-9	not established	not established	N.A.	---

SECTION III – PHYSICAL / CHEMICAL CHARACTERISTICS

Boiling Point: 739 mm Hg 300°F **Specific Gravity (H₂O = 1):** 25°C = 0.88 & 39°C = 0.88

Vapor Pressure (mm Hg.): 1.2 **Percent Volatile by Volume (%):** 89.5%

Vapor Density (AIR = 1): 4.7 **Evaporation Rate (ethyl ether = 1):** Slower than 1

Solubility in Water: moderate **Appearance and Odor:** Clear to slightly translucent orange liquid, citrus odor

SECTION IV – FIRE AND EXPLOSION HAZARD DATA

Flash point: 122°F Corrected (T.C.C.)

Flammable Limits: LEL = 1% UEL = N.A.

Extinguishing Media: Alcohol foam, dry chemical, carbon dioxide

Special Fire Fighting Procedures: Water spray may be ineffective, but may be used to cool closed containers. Class II fire procedures; wear NIOSH approved respirator and full protective gear.

Unusual Fire and Explosion Hazards: None known to Hillyard Industries.

SECTION V – PHYSICAL HAZARDS

Stability: Stable

Conditions to Avoid: Heat and flame.

Incompatibility (Materials to Avoid): Strong oxidizing material; cationics, acidic agents, including clays.

Hazardous Decomposition Products or Byproducts: As with any organic materials, combustion will produce carbon dioxide and probably carbon monoxide.

Hazardous Polymerization: Will not occur

Conditions to Avoid: None known to manufacturer

SECTION VI – HEALTH HAZARD DATA

Routes of entry: Inhalation? Yes Skin? no Ingestion? LD50 greater than 5 g/kg

HEALTH HAZARDS (1. Acute and 2. Chronic)

1. Eye or skin irritant. May cause allergic skin reaction. Aspiration hazard if swallowed. Can enter lungs and cause damage. Persons with pre-existing skin disorders may be more susceptible to the effects of this material. Breathing high concentrations of vapors or mists may cause irritation of the nose and throat and signs of nervous system depression (e.g., headache, drowsiness, dizziness, loss of coordination, and fatigue). Inhalation of fine mist at 7.9 mg./L was acutely toxic in 5 out of 10 animals. Ingestion can cause nausea, vomiting, and gastrointestinal irritation. At 5 g./kg. produced mortality in 1 out of 10 animals. Ingestion of excessive quantities may cause irritation of the digestive tract and signs of nervous system depression (e.g., headache, drowsiness, dizziness, loss of coordination, and fatigue). Aspiration Hazard - This material can enter lungs during swallowing or vomiting and cause lung inflammation and damage. D-Limonene has demonstrated limited evidence of carcinogenicity in laboratory animals. However, this effect appears to be unique to the male rate and has not been demonstrated in other species. The relevance of these findings to humans is uncertain. It has not been identified as a carcinogen by NTP, IARC, or OSHA. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage (sometimes referred to as Solvent or Painters' Syndrome). Intentional misuse by deliberately concentrating and inhaling this product may be harmful or fatal.

2. None known to Hillyard Industries.

SECTION VI – HEALTH HAZARD DATA continued

Chemical listed as Carcinogen or Potential Carcinogen:

National Toxicology Program = No I.A.R.C. Monograms = No OSHA = No

This product has no carcinogens listed by IARC, NTP, NIOSH, or ACGIH as of this date, greater than or equal to 0.1%.

Signs and Symptoms of Exposure: Skin and eye irritant.

Medical Conditions Generally Aggravated by Exposure: Open cuts and sores may be irritated by contact.

Emergency and First Aid Procedures: If swallowed, do not induce vomiting. Call physician immediately. If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical assistance immediately. In case of skin contact wash thoroughly with soap and water and get medical assistance immediately. For eye contact flush immediately with plenty of water for at least 15 minutes; lift eyelids and flush with water and get medical assistance immediately. Thoroughly clean contaminated shoes.

SECTION VII – PRECAUTIONS FOR SAFE HANDLING AND USE

Steps To Be Taken In Case Material Is Released Or Spilled: Absorb large spills; DO NOT use clay. Small spills should be flushed with water and picked up with mop.

Waste Disposal Method: Dispose of in accordance with state or local regulations.

EPA Hazardous Waste Classification: Ignitable Liquid. Incinerate in approved facility; do not incinerate closed container.

Precautions To Be Taken In Handling And Storing: Keep container closed when not in use. Since empty packages retain product residue, follow label warnings even after package is empty.

Other Precautions: Do not dispose of in storm drains or streams. This product contains no reportable quantities of toxic chemicals subject to reporting requirements of Section 313 of SARA Title III Emergency Planning and Community Right to Know Act of 1986 and 40 CFR Part 372. **USE ONLY WITH ADEQUATE VENTILATION.** Do not breathe vapors or spray mist. **Ensure fresh air entry during application and drying.** If you experience eye watering, headache, or dizziness or if air monitoring demonstrates vapor/mist levels are above applicable limits, wear an appropriate, properly fitted respirator (NIOSH/MSHA approved) during and after application. Follow respirator manufacturer's directions for respirator use.

SECTION VIII – CONTROL MEASURES

Respiratory Protection (Specify Type): Not normally required with adequate ventilation.

Ventilation:

Local Exhaust = Normally adequate Mechanical (General) = Recommended Special = N/A Other = N/A

Protective Gloves: Impervious gloves such as neoprene or rubber. Eye Protection: Splash goggles or approved eye protection to safeguard against potential eye contact, irritation or injury is recommended.

Other Protective Clothing or Equipment: Handle as a combustible liquid. When splashing is a concern use protective clothing, eye wash, and safety shower.

Work / Hygienic Practices: Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling; wash clothing before reuse.

SECTION IX – TRANSPORTATION INFORMATION

APPLICABLE REGULATIONS: CFR = No; IMCO = Yes; IATA = Yes.

DOT SHIPPING DESCRIPTION ON BILL OF LADING:

Proper shipping name: Cleaning Compound

UN No.: not applicable Limited Qty.: not applicable Hazard Class: not applicable

Labels required: not required DOT Exception: not applicable

Hazardous waste characteristics:

Ignitability = Yes; Corrosivity = not applicable; Reactivity = not applicable

IMCO AND IATA SHIPPING DESCRIPTION ON BILL OF LADING:

Proper shipping name = FLAMMABLE LIQUID, N.O.S. (d-Limonene), 3, UN1993, PG III

Package Marking = FLAMMABLE LIQUID, N.O.S. (d-Limonene), UN1993

Package Label = Flammable Hazard Class = 3 Package Group = III

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