

MATERIAL SAFETY DATA SHEET

Hercules Incorporated
 Resins Division
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 (302) 594-5000 (24 HRS)

1 PRODUCT IDENTIFICATION

PRODUCT NAME	HERCO® PINE OIL
CHEMICAL DESCRIPTION	pine oil
CAS NUMBER	8002-09-3

2 COMPOSITION / INFORMATION ON INGREDIENTS

OSHA Hazardous Ingredient	CASRN	Amount
terpene alcohols and hydrocarbons		

If this product is used in a manner that could generate a mist, refer to MSDS Section 8, Recommended Exposure Limits and Personal Protective Equipment.

3 HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW**

DANGER!

May cause eye irritation.
 May cause skin irritation.
 Inhalation of vapor may cause respiratory tract irritation
 Ingestion may cause severe gastrointestinal irritation.
 Combustible liquid

POTENTIAL HEALTH EFFECTS

May cause slow healing eye injury and blindness.
 If swallowed, vomiting will cause lung damage.

Refer to Section 5 for Hazardous Combustion Products, and Section 10 for Hazardous Decomposition/Hazardous Polymerization Products.

4 FIRST AID MEASURES**SKIN**

Wash thoroughly with soap and water. Remove contaminated clothing. Get immediate medical attention. Thoroughly wash clothing before reuse.

EYE

Remove contact lenses. Hold eyelids apart. Immediately flush eyes with plenty of low-pressure water for at least 15 minutes. Get immediate medical attention.

MARKETED BY
**HARWICK STANDARD
 DISTRIBUTION CORPORATION**
 60 S. Seiberling Street • Akron, Ohio 44305

INHALATION

Remove to fresh air. Get medical attention if nasal, throat or lung irritation develops.

INGESTION

Do NOT induce vomiting. Do not give anything by mouth. Get immediate medical attention. See Note to Physician.

NOTES TO PHYSICIAN

This product contains a hydrocarbon solvent. Aspiration into the lungs will cause pulmonary edema and chemical pneumonitis which may be fatal. Ingestion may cause damage to the esophageal mucosa which would contraindicate insertion of a nasogastric tube. Measures against circulatory shock and respiratory depression may be necessary.

5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Water spray, dry chemical, foam, carbon dioxide or clean extinguishing agents may be used on fires involving this product.

FIRE FIGHTING PROCEDURES

Wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH approved (or equivalent) and full protective gear when fighting fires involving this product.
Cool containers with water to prevent rupture.

CONDITIONS TO AVOID

None known.

HAZARDOUS COMBUSTION PRODUCTS

During combustion, the following substances may be formed: carbon monoxide, carbon dioxide, irritating gases, aldehydes and carboxylic acids

FLASH POINT 150 ° F Tagliabue

6 ACCIDENTAL RELEASE MEASURES

Extinguish all sources of ignition. For small spills: Add absorbent, sweep up, and dispose appropriately. For large spills: Dike to contain and pump into drums for use or disposal. In case of accidental spill or release, refer to Section 8, Personal Protective Equipment and General Hygiene Practices.

7 HANDLING & STORAGE

GENERAL MEASURES

Combustible. Bond containers during filling or discharge when performed at temperatures at or above the product flash point.

Storage area should conform to NFPA 30 and OSHA regulations for combustible liquid storage.

Store in a cool, dry place: approximately 20° C (68° F).

Keep container closed when not in use.

MATERIALS OR CONDITIONS TO AVOID

Keep away from heat, flame, sparks and other ignition sources.

Spontaneous combustion may occur in materials soaked with this product and exposed to air, as well as soaked vessel and piping insulation.

Avoid storing product near incompatible materials. See MSDS Section 10.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

WORK PRACTICES & ENGINEERING CONTROLS

Keep away from ignition sources.

Properly discard any item soaked with material, as spontaneous heating may occur.

Eyewash fountains and safety showers should be easily accessible.

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Discharge from the ventilation system should comply with applicable air pollution control regulations.

GENERAL HYGIENIC PRACTICES

Avoid contact with eyes, skin, and clothing.

Avoid breathing vapor, fumes or mist.

Avoid contamination of food, beverages, or smoking materials.

Do not swallow.

Handle in areas with adequate ventilation.

Wash thoroughly after handling, and before eating, drinking or smoking.

Remove contaminated clothing and shoes promptly and clean thoroughly before reuse.

RECOMMENDED EXPOSURE LIMITS

PARTICULATES (mist): If used under conditions that generate particulates (mist), the ACGIH TLV-TWA of 3 mg/m³ respirable fraction (10 mg/m³ total) should be observed.

Hercules Incorporated recommends a TWA exposure limit of 100 ppm for terpene hydrocarbons.

PERSONAL PROTECTIVE EQUIPMENT

Chemical goggles

Impervious gloves

Appropriate protective clothing

Appropriate respiratory protection is required when exposure to airborne contaminants may exceed acceptable limits. Respirators should be selected and used in accordance with OSHA, Subpart I (29 CFR 1910.134) and manufacturers recommendations.

PROTECTIVE MEASURES DURING REPAIR AND MAINTENANCE

Eliminate ignition sources.

Completely isolate and thoroughly clean all equipment, piping, or vessels before beginning maintenance or repairs.

Keep area clean. Product will burn.

9 PHYSICAL & CHEMICAL PROPERTIES

PHYSICAL STATE:	oily liquid
COLOR:	pale yellow to colorless
ODOR:	pine
Boiling Point	403 - 428 ° F
Specific Gravity	0.93
Percent Volatile	100
Vapor Pressure	< 1 mmHg at 68° F
Evaporation Rate	slower than butyl acetate
Vapor Density	heavier than air
Solubility In Water	slightly soluble in water
Freezing Point	32 ° F

10 STABILITY & REACTIVITY

HAZARDOUS DECOMPOSITION PRODUCTS

None known.

HAZARDOUS POLYMERIZATION

Not anticipated under normal or recommended handling and storage conditions.

GENERAL STABILITY CONSIDERATIONS

Stable under recommended handling and storage conditions.

INCOMPATIBLE MATERIALS

Incompatible with: oxidizing agents

11 TOXICOLOGICAL INFORMATION

CARCINOGENICITY INFORMATION

PRODUCT/SIMILAR PRODUCT - Not listed as a carcinogen by NTP. Not regulated as a carcinogen by OSHA. Not evaluated by IARC.

REPORTED HUMAN EFFECTS

PRODUCT/SIMILAR PRODUCT - Several human patch tests indicate that material is an irritant to human skin. In one repeated insult human patch test of 210 subjects, two developed questionable indications of dermal sensitization. Exposure to a major component, a terpene alcohol, may cause allergic skin reaction in individuals sensitized to pine products. Aspiration into the lungs will cause chemical pneumonia.

REPORTED ANIMAL EFFECTS

PRODUCT/SIMILAR PRODUCT - Acute oral LD50 (rat): > 2.0 g/kg; acute dermal LD50 (rabbit): > 2.0 g/kg. Moderate to severe eye irritant in rabbits persisting more than seven days. Mild to severe irritant to rabbit skin. Classified as an irritant under Federal Hazardous Substance Act. No evidence of skin sensitization to guinea pigs. Aerosol inhalation exposure of rats for one hour at 41 mg/L or for four hours at 3.70 mg/L caused no death or prolonged signs of toxicity. A five-hour exposure to the saturated vapor of a major component, a terpene alcohol, at 0.27 mg/L also caused no prolonged effects. Repeated dermal application at 50 to 226 mg/kg/day for 90 days resulted in local irritation, but no systemic toxicity. The integrity of the skin was not compromised. Oral administration to rats at 50 to 1200 mg/kg/day (days 6-15 of gestation) resulted in maternal toxicity at 600 and 1200 mg/kg/day. Fetal/embryonic effects were observed only at levels causing maternal toxicity.

MUTAGENICITY/GENOTOXICITY INFORMATION

PRODUCT/SIMILAR PRODUCT - No evidence of mutagenicity was observed in any of several tests: Ames, Unscheduled DNA Synthesis with rat hepatocytes, or Micronucleus Cytogenetic Assay in mice.

12 ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

PRODUCT/SIMILAR PRODUCT - Acute oral LD50 (mallard duck and northern bobwhite quail): > 2.25 g/kg; these values fall within the slightly toxic range according to U. S. Fish and Wildlife criteria. The oral LC50 (mallard duck and northern bobwhite quail) when fed in diet for five days: > 5620 ppm. Acute aquatic 96-hour LC50 value falls within the slightly toxic range of 10-100 mg/L for bluegill, rainbow trout and daphnia according to U. S. Fish and Wildlife criteria.

13 DISPOSAL CONSIDERATIONS

WASTE DISPOSAL

Incineration in accordance with applicable regulations is the recommended disposal method. Disposal should be in accordance with applicable Federal, State and local regulations.

14 TRANSPORT INFORMATION

GENERAL

This product is subject to the hazardous materials regulations. For specific information regarding transportation of this product, please contact Hercules Transportation Department at (302) 594-7356 or FAX at (302) 594-7256.

15 REGULATORY INFORMATION

FEDERAL REGULATIONS

FOR USES INVOLVING COSMETIC OR SKIN-CONTACT APPLICATIONS

Pursuant to U.S. FDA Regulation 21 CFR 740.10:

"WARNING - The safety of this product has not been determined."

EPA/FIFRA

HERCO® pine oil is registered with the Office of Pesticides and Toxic Substances of the U. S. Environmental Protection Agency under U. S. EPA Registration Number 891-175. Refer to the product label for further information.

CHEMICAL INVENTORIES

U.S. TSCA: The components of this product are included on the TSCA Inventory.

European EINECS : Included on EINECS list.

Canadian CEPA : Included on DSL Inventory.

Australian AICS : Included on AICS Inventory.

Korean KECL : Included on KECL Inventory.

Philippine PICCS : Included in draft PICCS Inventory.

SARA TITLE III - SECTIONS 302/304

This product is not an Extremely Hazardous Substance subject to reporting under 40CFR355.

SARA TITLE III - SECTION 311 AND 312

HC-1: Acute health hazard

HC-3: Fire hazard

SARA TITLE III - SECTION 313

This product does not contain any chemicals subject to reporting under Section 313 of Title III of the Superfund Amendments and Reauthorization Act and 40CFR372.

CERCLA

This product does not contain any chemicals subject to reporting as a CERCLA Hazardous Substance under 40CFR302.4.

RCRA

This product is not a hazardous waste as listed in 40CFR261.33. It does not exhibit any of the hazardous characteristics listed in 40CFR261, Subpart C.

16 OTHER INFORMATION

HMIS RATINGS:

Health 2 Moderate Hazard

Flammability 2 Moderate Hazard

Reactivity 1 Slight Hazard

LIST OF ACRONYMS

ACGIH: American Conferences of Governmental Industrial Hygienists

AIHA WEEL: American Industrial Hygienists Association - Workplace Environmental Exposure Level

CASRN: Chemical Abstracts Service Registry Number

CERCLA: Comprehensive Emergency Response, Compensation and Liability Act

HMIS: Hazardous Materials Identification System

IARC: International Agency for Research on Cancer

NTP: National Toxicology Program

OSHA: Occupational Safety and Health Administration

PEL: OSHA Permissible Exposure Limit

RCRA: Resource Conservation and Recovery Act

RQ: Reportable Quantity

SARA: Superfund Amendment Reauthorization Act

STEL: Short-Term Exposure Limit

TLV: Threshold Limit Values (registered trademark of ACGIH)

TPQ: Threshold Planning Quantity

TSCA: Toxic Substance Control Act

TWA: Time Weighted Average

DISCLAIMER

The information and recommendations contained in this Material Safety Data Sheet have been compiled from sources believed to be reliable and to represent the most reasonable current opinion on the subject when the MSDS was prepared. No warranty, guaranty or representation is made as to the correctness or sufficiency of the information. The user of this product must decide what safety measures are necessary to safely use this product, either alone or in combination with other products, and determine its environmental regulatory compliance obligations under any applicable federal or state laws.