

Section 1. Chemical Product and Company Identification

Product/Trade Name	SYLVAPINE® DPHO	Code	-
		MSDS#	7240
Supplier / Manufacturer	Arizona Chemical P.O. Box 550850 Jacksonville, FL 32255-0850 USA (800) 526-5294 / (904) 928-8700	Validation Date	6/9/2004
		Print Date	6/9/2004
Chemical Name	Dipentene (from turpentine-oil)	EMERGENCY PHONE CHEMTREC: 1-800-424-9300 (transportation and medical)	

Section 2. Composition and Information on Ingredients

Name	CAS #	% by Weight
1) Terpenes and Terpenoids, Turpentine Oil, Limonene Fraction	65996-99-8	100

See Section 8 for Exposure Controls/ Exposure Limits/ Personal Protection information.

Section 3. Hazards Identification

EMERGENCY OVERVIEW

Product is a combustible liquid. Product is a clear liquid with a terpene odor. Contact with this material can cause eye, skin and mucous membrane irritation. Vapors may also produce eye irritation. May be harmful if swallowed. Ingestion of this product may cause nausea, vomiting and diarrhea. May be harmful if inhaled. Excessive inhalation of this material may cause dizziness or suffocation. May be harmful if absorbed through skin.

HMIS

HEALTH: **2**

FIRE: **2**

REACTIVITY: **0**

PPE: see Section 8 of this MSDS.

0=Minimal; 1=Slight; 2=Moderate;
3=Serious; 4=Severe;
(*)=Chronic health hazard.

Potential Health Effects

Eye Contact	Liquid or vapors may cause severe eye irritation, possibly eye burns.
Skin Contact	Prolonged or repeated skin contact may cause skin irritation, possibly skin burns, or allergic skin sensitization reaction. Product may be harmful if it absorbed through the skin.
Inhalation	May be harmful if inhaled. Vapors may cause dizziness or suffocation. May cause respiratory system irritation. Aspiration into lungs may cause chemical pneumonitis.
Ingestion	May be harmful if swallowed. Ingestion may produce gastrointestinal irritation and disturbances. Ingestion may cause nausea, vomiting and diarrhea.

Section 4. First Aid Measures

Eye Contact	Immediately flush eyes with flooding amounts of cool, low pressure water for at least 15 minutes.
Skin Contact	In case of skin contact, wash immediately with soap and water. If irritation develops or persists, get medical attention. Launder contaminated clothing before reuse.
Inhalation	Move person to non-contaminated air. If affected person is not breathing, apply artificial respiration. Seek medical attention.
Ingestion	If swallowed, contact a physician or poison control center immediately. DO NOT induce vomiting.
Notes to Physician	If aspirated into lungs, this material may cause chemical pneumonitis; treat the affected person appropriately.

*****If victims of chemical over-exposure are taken for medical attention, give a copy of the label or MSDS to the physician/health professional.*****

Section 5. Fire and Explosion Data

Flammability of the Product	Combustible liquid.	<p>NFPA 704</p> <p>Health 2 2 0 Reactivity Specific Hazard</p> <p>0=Minimal; 1=Slight; 2=Moderate; 3=Serious; 4=Severe</p> <p>This information is for people trained in the National Fire Protection Association's (NFPA 704) Identification of the Fire Hazards of Materials.</p>
Auto-Ignition Temperature	237°C (458.6°F)	
Flash Point	48.889°C (120°F), (Tagliabue).	
Flammable Limits	LOWER: 0.7% UPPER: 6.1%	
General Fire Hazards	DANGEROUS when exposed to heat or flame. This material can be ignited by flame or spark under all normal atmospheric conditions. Container may explode in heat or fire. Vapors may travel considerable distance to source of ignition and flash back.	
Hazardous Decomposition Products	Upon decomposition, product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.	
Extinguishing Media	Dry chemical, foam, or carbon dioxide. Water may be an ineffective extinguishing agent.	
Fire Fighting Equipment and Instructions	Wear full protective clothing, including self-contained positive pressure/pressure demand breathing apparatus, helmet, and protective clothing. Use water spray to cool fire-exposed containers and to protect personnel.	

Section 6. Accidental Release Measures

Containment	Eliminate all sources of ignition or flammables that may come into contact with a spill of this material. Dike spilled material, where this is possible. Do not allow product to enter public drainage systems or open water courses.
Clean-up Procedures	Spills may present a slipping (physical) hazard. Wear appropriate protective equipment and clothing during clean-up. Avoid skin and eye contact. Ventilate contaminated area. Absorb spilled material with an inert material. Use spark proof tools. Shovel material into appropriate container for disposal. Thoroughly wash spill area with water after clean-up. WATER SPILL: product may be regulated as an oil under the Clean Water Act. Follow all applicable regulations. Follow all Local, State, Federal and Provincial regulations for disposal.
Evacuation Procedures	Isolate area. Keep unnecessary personnel away. Persons not wearing appropriate protective equipment should be excluded from area of spill until clean-up has been completed. In case of large spills, follow all facility emergency response procedures.
Special Instructions	Avoid excessive inhalation of vapors or mists from the spilled material. Avoid contact with skin and eyes. Remove soiled clothing and laundry before reuse.

Section 7. Handling and Storage

Handling	Avoid eye and skin contact. Avoid breathing vapors or mists of this material. Use only with adequate ventilation. Keep away from heat, sparks, or open flame. Do not use air pressure or apply heat with open flame to remove contents of drum. After emptied, drum may retain solid, liquid, and/or vapor residues. Continue to observe all precautions on label as if drum were full. Do not cut, puncture, torch, or weld on or near the emptied drum. Do not use for other purposes. Empty drums should be triple-rinsed and reprocessed or disposed of in compliance with Local, State, Federal, and Provincial Environmental Regulations. Follow guidelines as established for NFPA Class II Combustible Liquids, NFPA 30 Flammable and Combustible Liquids Code. Maintain good housekeeping. Some porous materials such as clothing, rags, paper, insulation, or clay when wetted with this product may undergo spontaneous combustion. Keep such wetted materials well ventilated to prevent possible heat buildup. An explanation of spontaneous combustion is available in Technical bulletin #2. Please contact customer service to request a copy. Wash thoroughly after handling. Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet or applying cosmetics.
Storage	Store at atmospheric pressure. Avoid warm storage. Store in tightly closed/properly vented containers. Protect containers against physical damage. Store in a cool, dry, well-ventilated place away from strong oxidizers and corrosives. Follow guidelines as established for NFPA Class II Combustible Liquids, NFPA 30 Flammable and Combustible Liquids Code. Do not store in opened or unlabeled containers.

Section 8. Exposure Controls/Personal Protection

Engineering Controls Provide local exhaust and general ventilation systems to maintain airborne concentrations below OSHA, ACGIH, and manufacturer recommended exposure limits. Local exhaust ventilation is preferred because it prevents contaminant dispersion into work areas by controlling it at its source. Use local and general exhaust ventilation to effectively remove and prevent buildup of vapors/mists generated from the handling of this product. Use electrically grounded, explosion-proof equipment for ventilation or any handling of this product.

Personal Protection

Eye/Face: Wear chemical goggles; face shield if splashing is possible. Ensure compliance with OSHA's personal protective equipment (PPE) standard for eye and face protection, 29 CFR 1910.133.

Skin: Use impervious gloves. Work clothing sufficient to prevent all skin contact should be worn, such as coveralls and long sleeves. Ensure compliance with OSHA's personal protective equipment (PPE) standard, 29 CFR 1910.132 (general) and 138 (hand protection).

Respiratory: GAS/VAPOR: Respirators should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2-1992). A written respiratory protection program, including provisions for medical certification, training, fit-testing, exposure assessments, maintenance, inspection, cleaning, and convenient, sanitary storage, must be implemented. For concentrations above the TLV and/or PEL but less than 10 times these limits, a NIOSH approved half-facepiece respirator equipped with appropriate chemical cartridges may be used. For concentrations greater than 10 times the TLV and/or PEL, consult the NIOSH respirator decision logic found in Publication No. 87-116 or ANSI Z88.2-1992. Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

General: Use good industrial hygiene practices in handling this material. Remove contaminated clothing immediately and do not reuse without laundering. Eye wash fountains and emergency showers are recommended.

Observe exposure limits for d-limonene, AIHA has published a Workplace Environmental Exposure Limit (WEEL) of 30 ppm for an 8-hr TWA.

If Product is heated above 32°C (90°F), observe exposure limits for Turpentine:

ACGIH TLV TWA: 100 ppm (556 mg/m³);

OSHA PEL TWA: 100 ppm (560 mg/m³).

Chemical Name or Product Name	CAS #	OSHA PEL	ACGIH TLV
1) Terpenes and Terpenoids, Turpentine Oil, Limonene Fraction	65996-99-8	Not established	Not established

NOTE: The 1989 OSHA PELs were vacated in 1993 and are not currently enforceable by Federal OSHA. However, some state OSHA programs may still enforce the 1989 limits.

Section 9. Physical and Chemical Properties

Physical state and appearance	Colorless liquid.	Vapor Density	4.7 (Air = 1)
Odor	Terpene.	Percent Volatile (EPA Method 24)	100% (v/v).
Color	Colorless liquid	Solubility (water)	Negligible
Molecular Weight	Not determined	Density (vs. water)	Not available.
Specific Gravity	<1 (Water = 1)	Flash Point	48.889°C (120°F), (Tagliabue).
Boiling Point	>157.22°C (315°F)	R/B Softening Point	Not applicable.
pH	Not applicable.	Acid No. (per ASTM D-465)	Not available.

Section 10. Stability and Reactivity Data

Chemical Stability	The product is stable.
Conditions to avoid	Avoid strong oxidizing agents. This product may react with strong acids.
Incompatibility	May react with strong oxidizing agents. May react with strong acids.
Hazardous Decomposition Products	Upon decomposition, product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.
Hazardous Polymerization	Violent polymerization may occur from contamination with acids.

Section 11. Toxicological Information

Toxicity to Animals	<p>No toxicological information is available for this product, however, information of the components is as follows:</p> <p>Terpenes (Alpha and Beta Pinene): ORAL, rat, LD50 = 3500 mg/kg.</p> <p>Sulfate turpentine: ORAL, rat LD50 = 1400 to 5760 mg/kg; INHALATION, rat, LC50 = 12,000 mg/β (6 hours).</p> <p>Limonene: ORAL, rat, LD50 = >5000 mg/kg. Dermal, rabbit, LD50 = >2000 mg/kg.</p> <p>Skin irritation studies in rabbits have shown limonene to be a moderate irritant. Skin sensitization has been shown in guinea pig studies using air-oxidized limonene. No significant reactions were obtained using limonene of 98% purity, while limonene after exposure to air for 2 months sensitized guinea pigs. Two-year studies showed clear evidence of carcinogenicity in the kidneys of male rats. There was no evidence of carcinogenic activity for female rats or mice of either sex. Inhibition of cholesterol biosynthesis occurred in the small intestine of rats after administration of limonene for 7 days, but no significant effect on the secretion of radiolabeled cholesterol into bile and feces was observed. Ames Salmonella Assay showed limonene to be non-mutagenic. Some teratogenic effects have been seen in rats and mice. Maternal toxicity was seen in rabbits.</p>
Toxicity to Humans	<p>Contact may severely irritate or burn skin and eyes. Product may be harmful if it is absorbed through the skin. Vapors may cause dizziness or suffocation. Aspiration may cause chemical pneumonitis and pulmonary edema/hemorrhage.</p> <p>Limonene was not irritating or sensitizing in controlled human patch testing. However, if oxidized, sensitization characterized by redness, inflammation, itching and/or burning may result from prolonged or repeated contact. Kidney tumors produced in male mice following dipentene exposure was specific to Fisher male mice. On this basis, the National Toxicology Program stated that the kidney tumors seen in male rats were not relevant to carcinogenesis in man.</p> <p>CARCINOGENIC EFFECTS: None of this product's components are listed as carcinogens by ACGIH, IARC, NIOSH, NTP or OSHA. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. No information available on the toxicity of this product to the reproductive system.</p>

Section 12. Ecological Information

Ecotoxicity	<p>A spill of this product may produce significant toxicity to aquatic organisms and ecosystems. Concentrations of approximately 100 ppm have been demonstrated to be toxic to fish in 96 hour exposures (species not identified). However, some studies have shown that certain bacteria and fungi have the ability to degrade terpenes and thus decrease their toxicity to fish.</p> <p>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. Oils of any kind can cause: (a) drowning of waterfowl due to lack of buoyancy, loss of insulating capacity of feathers, starvation and vulnerability to predators due to lack of mobility; (b) lethal effect on fish by coating gill surfaces, preventing respiration; (c) potential fish kills resulting from alteration in biochemical oxygen demand; (d) asphyxiation of benthic life forms when floating masses become engaged with surface debris and settle on the bottom; and (e) adverse aesthetic effects of fouled shoreline and beaches.</p>
Environmental Fate	Based on similar products, this product may interfere with water treatment processes, including settling and floc formation, and may plug filters and exchange beds.

Section 13. Disposal Considerations

Waste Disposal	Do not allow this material to drain into sewers/water supplies. Wastes may be classified as an ignitable waste (DOO1). Wastes must be tested using methods described in 40 CFR 261 to determine if it meets applicable definitions of hazardous waste. No EPA Waste Numbers are applicable for this product's components. Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations. Write to the address listed in Section 1 for information on heavy metals analysis and other disposal information.
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Section 14. Transport Information

DOT Classification	DOT CLASS 3: Flammable liquid.
Proper Shipping Name	Dipentene
DOT Identification Number	UN2052
Packing Group	PG-III
Hazardous Substances Reportable Quantity	Not available.
Special Provisions for Transport	No additional information.
Additional Shipping Information	Marine Pollutant
International Transportation Regulations	Not Determined

Section 15. Regulatory Information

Federal and State Regulations	<p>OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).</p> <p>SARA TITLE III: SARA Section 302 (40 CFR 355 Appendix A): None of this product's components are listed; SARA Section 311/312: Fire Hazard, Immediate (Acute) Health Hazard; SARA Section 313 (40 CFR 372.65): None of this product's components are listed; CERCLA (40 CFR 302.4): None of this product's components are listed.</p> <p>TSCA Inventory: All of this product's components are listed.</p> <p>International Inventories: All of this product's components are on or exempt from these inventories: Canada DSL, EINECS, Japan, China, Korea, Australia and the Philippines.</p> <p>State Lists: None of this product's components are listed in CA, FL, MA, MN, NJ, or PA.</p> <p>This product does not contain any chemicals currently on the California List of Known Carcinogens and Reproductive Toxins.</p>
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Section 16. Other Information

Key/Legend	ACGIH = American Conference of Governmental Industrial Hygienists. ANSI = American National Standards Institute. ASTM = American Society for Testing and Materials. CERCLA = Comprehensive Environmental Response, Compensation and Liability Act. DOT = Department of Transportation. EPA = Environmental Protection Agency. IARC = International Agency for Research on Cancer. LD = Lethal Dose. NIOSH = National Institute of Occupational Health and Safety. NTP = National Toxicology Program. OSHA = Occupational Safety and Health Administration. PEL = Permissible Exposure Limit. SARA = Superfund Amendments and Reauthorization Act. TLV = Threshold Limit Value. TSCA = Toxic Substance Control Act.
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Validated by Cindy Smith on 6/9/2004.

Verified by Product Regulatory Affairs.

Printed 6/9/2004.

Supersedes Date Not applicable. **Reason for Revision** New commercial product.

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