

## Section 1. Chemical Product and Company Identification

<b>Product/Trade Name</b>	<b>SYLVAPINE® A</b>	<b>Code</b>	A
		<b>MSDS#</b>	0138
<b>Supplier / Manufacturer</b>	Arizona Chemical P.O. Box 550850 Jacksonville, FL 32255-0850 USA (800) 526-5294 / (904) 928-8700	<b>Validation Date</b>	12/11/2008
		<b>Print Date</b>	12/11/2008
<b>Chemical Name</b>	alpha-pinene	<b>EMERGENCY PHONE</b> 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, Alpha-Pinene Fraction	65996-96-5	100

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

## Section 3. Hazards Identification

### EMERGENCY OVERVIEW

Product is a light, clear liquid with a terpene odor. Liquid and vapors are flammable. Vapors may travel a long distance to a source of ignition and flash back. After prolonged contact with highly porous materials, this product may spontaneously combust. Eye, skin and mucous membrane irritant. Harmful if inhaled, swallowed, or absorbed through skin. Exposure may result in pneumonitis, pulmonary edema, rapid heart rate, and central nervous system depression. Ingestion of this product may cause nausea, vomiting and diarrhea.

### HMIS

**HEALTH:** \* 2  
**FIRE:** 3  
**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

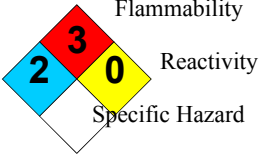
<b>Eye Contact</b>	Product is severely irritating to the eyes. Contact may cause severe pain, burns and corneal injury. Vapors may also cause eye irritation.
<b>Skin Contact</b>	Product is irritating to skin. Irritation may be severe. Product may be absorbed through the skin. Prolonged or repeated absorption may produce central nervous system depression associated with nausea, headache, dizziness, and respiratory depression. Prolonged or repeated contact may cause drying/defatting of the skin. Chronic skin contact may cause allergic skin sensitization.
<b>Inhalation</b>	Vapors and mists are irritating to mucous membranes and respiratory system. Excessive inhalation may result in pneumonitis, pulmonary edema, rapid heart rate, and central nervous system depression. Continued inhalation may produce seizures, kidney and bladder damage. Aspiration into lungs may cause severe damage, including chemical pneumonitis and pulmonary edema. Repeated exposure may lead to respiratory sensitization reactions, producing an asthma-like condition.
<b>Ingestion</b>	Ingestion may cause gastrointestinal irritation, including burning, nausea, vomiting and diarrhea. Ingestion of large amounts may cause ataxia, confusion, rapid heartbeat, kidney and bladder damage, seizures, respiratory depression, coma and death.

## Section 4. First Aid Measures

<b>Eye Contact</b>	Immediately flush eyes with flooding amounts of cool, low pressure water for at least 15 minutes.
<b>Skin Contact</b>	In case of skin contact, wash immediately with soap and water. If irritation develops or persists, get medical attention. Launder contaminated clothing before reuse.
<b>Inhalation</b>	Move person to non-contaminated air. If affected person is not breathing, apply artificial respiration. Seek medical attention.

<b>Ingestion</b>	If swallowed, contact a physician or poison control center immediately. DO NOT induce vomiting.
<b>Notes to Physician</b>	If aspirated into lungs, this material may cause chemical pneumonitis; treat the affected person appropriately.  <i>***If victims of chemical over-exposure are taken for medical attention, give a copy of the label or MSDS to the physician/health professional.***</i>

### Section 5. Fire and Explosion Data

<b>Flammability of the Product</b>	Flammable.	<b>NFPA 704</b>  <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>
<b>Auto-Ignition Temperature</b>	Not available.	
<b>Flash Point</b>	29.4°C (85°F), (Setaflash Closed Cup)	
<b>Flammable Limits</b>	Not available.	
<b>General Fire Hazards</b>	Liquid and vapors are flammable. Vapor may travel considerable distance to source of ignition and flash back. If mist is generated, minimum flash point may be reduced. After prolonged contact with porous materials, product may spontaneously combust.	
<b>Hazardous Decomposition Products</b>	Upon decomposition, product emits carbon monoxide, carbon dioxide and other low molecular weight hydrocarbons.	
<b>Extinguishing Media</b>	Carbon dioxide, dry chemical, or alcohol type foam. Water spray/fog may be used to reduce rate of burning and to cool containers. Avoid using a direct stream of water. Water may be an ineffective extinguishing agent.	
<b>Fire Fighting Equipment and Instructions</b>	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

<b>Containment</b>	Contain the discharged material. Eliminate all sources of ignition or flammables that may come into contact with a spill of this material. Do not allow product to enter public drainage systems or open water courses.
<b>Clean-up Procedures</b>	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 spill with inert material. Use spark proof tools. Shovel material into appropriate container for disposal. 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.
<b>Evacuation Procedures</b>	Isolate area. Keep unnecessary personnel away. In case of large spills, follow all facility emergency response procedures.
<b>Special Instructions</b>	Do not allow product to come into contact with skin or eyes. Do not breathe vapors or mists from the spilled material. Remove soiled clothing and launder before reuse.

### Section 7. Handling and Storage

<b>Handling</b>	Avoid eye and skin contact. Avoid breathing vapors or mists of this material. Use only with adequate ventilation. Keep away from ignition sources. 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. Electrically ground all equipment and containers when handling this product and use non-sparking tools. Vapor space above liquid may be flammable/explosive unless blanketed with inert gas. Follow guidelines as established for NFPA Class I Flammable Liquids, NFPA 30 Flammable and Combustible Liquids Code, and NFPA 325M Fire Hazard Properties of Flammable Liquids, Gasses, and Volatile Solids. 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.
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**Storage** Store at ambient temperature and atmospheric pressure. Store in tightly closed/properly vented containers. Do not store in opened or unlabeled containers. Protect containers against physical damage. Store in cool, dry, well-ventilated area away from strong oxidizers and corrosives. Outside or detached storage is preferable; inside storage should be in a standard flammable liquids storage room or cabinet. Follow guidelines as established for NFPA Class I Flammable Liquids, NFPA 30 Flammable and Combustible Liquids Code, and NFPA 325M Fire Hazard Properties of Flammable Liquids, Gasses, and Volatile Solids.

## 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 electrically grounded, explosion-proof equipment for ventilation or any handling of this product.

### Personal Protection

**Eye/Face:** Wear chemical goggles and face shield. 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-face piece 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:** Remove contaminated clothing immediately and do not reuse without laundering. Eye wash fountains and emergency showers are recommended. Use good industrial hygiene practices in handling this material.

Observe exposure limits for turpentine:

**ACGIH TLV TWA:**100 ppm (556 mg/m<sup>3</sup>);

**OSHA PEL TWA (vacated):**100 ppm (560 mg/m<sup>3</sup>).

Observe exposure limits for Oil Mist (NOC):

**ACGIH TLV TWA:**5 mg/m<sup>3</sup>; STEL 10 mg/m<sup>3</sup>;

**OSHA PEL TWA:**5 mg/m<sup>3</sup>.

Chemical Name or Product Name	CAS #	OSHA PEL	ACGIH TLV
1) Terpenes and Terpenoids, Turpentine-Oil, Alpha-Pinene Fraction	65996-96-5	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

<b>Physical state and appearance</b>	Liquid. (Clear, mobile liquid)	<b>Vapor Density</b>	4.84 (Air = 1)
<b>Odor</b>	Terpene odor.	<b>Percent Volatile (EPA Method 24)</b>	99.9% (v/v).
<b>Color</b>	Clear (Light.)	<b>Solubility (water)</b>	Negligible
<b>Molecular Weight</b>	~ 136	<b>Density (vs. water)</b>	< 1
<b>Specific Gravity</b>	0.86 (Water = 1)	<b>Flash Point</b>	29.4°C (85°F), (Setaflash Closed Cup)
<b>Boiling Point</b>	~ 155.56°C (312°F)	<b>R/B Softening Point</b>	Not applicable.
<b>pH</b>	Not applicable.	<b>Acid No. (per ASTM D-465)</b>	Not available.

**Section 10. Stability and Reactivity Data**

<b>Chemical Stability</b>	The product is stable.
<b>Conditions to avoid</b>	Keep away from ignition sources. Avoid prolonged storage in hot areas. Avoid strong oxidizing and porous agents.
<b>Incompatibility</b>	May react with strong oxidizing agents. Can react violently with calcium hypochlorite, chlorine, chromium trioxide, chromyl chloride, tin chloride, hexachloromelamine and dichloromelamine. Incompatible with nitrosyl perchlorate.
<b>Hazardous Decomposition Products</b>	Upon decomposition, product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.
<b>Hazardous Polymerization</b>	Violent polymerization may occur from contamination with acids.

**Section 11. Toxicological Information**

<b>Toxicity to Animals</b>	<p><b>Alpha- (and Beta-) Pinene:</b> ORAL, rat, LD50 = 3500 mg/kg.</p> <p><b>Alpha-Pinene:</b> DERMAL, rabbit, LD50 = &gt;5000 mg/kg.</p> <p>Alpha-pinene was shown to be a primary skin irritant in rabbits. Little eye irritation was shown in rabbits exposed to 0.1 ml of undiluted alpha-pinene for 72 hours.</p> <p><b>Sulfate Turpentine: (58%-65% alpha-pinene)</b> INHALATION, rat, LC50 = 12,000 mg/m<sup>3</sup>. ORAL, rat, LD50 = 1400 to 5700 mg/kg. Symptoms following inhalation exposure of sulfate turpentine in rats include central nervous system depression, increased respiration rate, and decreased tidal volume. Female rats died following exposure to 5000 mg/m<sup>3</sup> (900 ppm) for 6 hours/day, 5 days/week for 12 weeks. Slight lung damage was seen. There were no deaths in exposed male rats and guinea pigs. Minor liver and kidney changes were seen in guinea pigs exposed 45-58 times, for 4 hours at a time, to 715 ppm. Increased mortality (59%), severe CNS depression and low body weight was seen in newborn rats born to mothers that had been exposed twice daily for 10 minutes to a saturated atmosphere during days 17 to 21 days of pregnancy.</p>
<b>Toxicity to Humans</b>	<p>Contact with liquid or vapors can irritate the eyes, nose, and throat. Based on sulfate turpentine: throat irritation was seen at 125 ppm and eye and nose irritation was seen at 175 ppm in humans. Product is irritating to the skin. Material may be absorbed through intact skin. A clinical study showed that a topical exposure of undiluted alpha-pinene produced severe skin irritation. Higher levels of alpha-pinene can cause headaches, dizziness, and rapid pulse and central nervous system depression. Aspiration may cause chemical pneumonitis and pulmonary edema/hemorrhage.</p> <p>Chronic exposure may cause skin sensitization. Skin sensitization, characterized by redness, inflammation, itching and/or burning may result from prolonged or repeated contact. Kidney and bladder damage may occur following repeated contact. Based on turpentine, repeated or chronic occupational exposures to vapors or mist may cause respiratory sensitization.</p> <p><b>CARCINOGENIC EFFECTS:</b> None of this product's components are listed as carcinogens by ACGIH, IARC, NIOSH, NTP or OSHA. An association between respiratory cancer and chronic exposure to certain terpene compounds in the wood industry has been demonstrated; however, the evidence is insufficient to conclude that chronic exposure to this product may result in an increased risk of cancer.</p> <p><b>MUTAGENIC EFFECTS:</b> Not available. <b>TERATOGENIC EFFECTS:</b> Based on turpentine, occupational exposure may affect the development of the embryo and fetus. No information available on the toxicity of this product to the reproductive system.</p>

**Section 12. Ecological Information**

<b>Ecotoxicity</b>	<p>A spill of this product may produce significant toxicity to aquatic organisms and ecosystems. Based on turpentine, concentrations of approximately 100 ppm have been demonstrated to be toxic to fish (species and exposure time were not specified). However, some studies have shown that certain bacteria and fungus 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>
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**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** Wastes may be classified as an ignitable waste (DOO1). Do not allow this material to drain into sewers/water supplies. 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.

### Section 14. Transport Information

**DOT Classification** DOT CLASS 3: Flammable liquid.

**Proper Shipping Name** Alpha Pinene.

**DOT Identification Number** UN2368

**Packing Group** PG-III

**Hazardous Substances Reportable Quantity** Not available.

**Special Provisions for Transport** No additional information.

**Additional Shipping Information** Not a Marine Pollutant

**International Transportation Regulations** Not Determined

### Section 15. Regulatory Information

**Federal and State Regulations** OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

SARA TITLE III:  
 SARA Section 302 (40 CFR 355 Appendix A): **None of this product's major components are listed; contains trace toluene**  
 SARA Section 311/312: **Fire Hazard, Immediate (Acute) Health Hazard**  
 SARA Section 313 (40 CFR 372.65): **None of this product's major components are listed; contains trace toluene below 1 % deminimus levels**  
 CERCLA (40 CFR 302.4): **None of this product's major components are listed; contains trace toluene - RQ 1000 pounds**

EPA, Clean Water Act: Regulated as a non-petroleum based oil. Spills of this material to navigable waters in quantities sufficient to produce "sheen" are reportable.

TSCA Inventory: All of this product's components are listed.  
 International Inventory Status: This product is either listed or exempt from listing on the following inventories: Europe EINECS, Japan ENCS, Korea ECL, Australia AICS, China IECS, Philippines PICCS, and Canada DSL (product can be known internationally under CASRN 80-56-8)

State Lists:  
 The following components are on the State of Massachusetts Right to Know List: **toluene**

The following components are on the State of Florida Hazardous Substances List: **toluene**

The following components are on the State of Minnesota Hazardous Substance List: **toluene**

The following components are on State of New Jersey Substance Lists: **toluene**

The following components are on the State of Rhode Island Hazardous Substances List: **toluene**

The following components are on the State of Michigan Critical Materials List: **toluene**

The following components are on the State of Pennsylvania Right to Know List: **toluene**

This product contains the following ingredients for which the State of California has found to cause cancer, birth defects, or other reproductive harm, which would require warning under the statute: **toluene, (trace impurity)**

### 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.

Validated by Lidia Krzywanska on 12/11/2008.

Verified by Product Regulatory Affairs.

Printed 12/11/2008.

**Supersedes Date** 09/20/07      **Reason for Revision** Updated Section 15.

#### Notice to Reader

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