

Safety Data Sheet

Alpha Pinene



Revision Date: 11/02/2018

Page 1 of 24

1. Identification

Product Description	Alpha Pinene
CAS #	80-56-8
FEMA Number	2902
True Terpenes Item #	RM10019
Recommended Use	Concentrated aromatic and flavor ingredient which may be used in flavor and fragrance compounds according to legal and IFRA or FEMA GRAS/FDA guidelines.
Recommended Restrictions	For manufacturing use only
Company	True Terpenes (888) 954-8550 TrueTerpenes.com
Emergency Contact	Poison Control Helpline: 1 (800) 222-1222

2. Hazard(s) Identification



Safety Data Sheet

Alpha Pinene



Revision Date: 11/02/2018

Page 2 of 24

Physical Hazards	Flammable liquids	Category 3
Health Hazards	Acute toxicity, oral	Category 5
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Sensitization, skin	Category 1
	Aspiration hazard	Category 1
Environmental Hazards	Hazardous to the aquatic environment, acute hazard	Category 1
	Hazardous to the aquatic environment, long-term hazard	Category 1

Label Elements



Signal Word Danger

Hazard Statement Flammable liquid and vapor. May be harmful if swallowed. May be fatal if swallowed and enters airways. Causes skin irritation. Causes skin and eye irritation. May cause an allergic skin reaction. Causes serious eye irritation. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Precautionary Statement

Prevention Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof



Safety Data Sheet

Alpha Pinene



Revision Date: 11/02/2018

Page 3 of 24

	electrical/ventilating/lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Avoid breathing mist or vapor. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.
Response	IF SWALLOWED: Immediately call a POISON CENTER/doctor. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a POISON CENTER/doctor if you feel unwell. If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. In case of fire: Use appropriate media to extinguish. Collect spillage.
Storage	Store in a well-ventilated place. Keep cool. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not Otherwise Classified (HNOC)	None known.
Supplemental Information	100% of the mixture consists of component(s) of unknown acute inhalation toxicity.

3. Composition / Information on Ingredients



Safety Data Sheet

Alpha Pinene



Revision Date: 11/02/2018

Page 4 of 24

Chemical Name	Common Name and Synonyms	CAS Number	Percent
Pinene Alpha	dextro,laevo-pin-2(3)-ene 2,6,6 - trimethyl bicyclo-3,1,1-2-heptene 4,7,7- trimethylbicyclo[3.1.1]hept-3-ene	80-56-8	100

4. First-Aid Measures

Inhalation

If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. For breathing difficulties, oxygen may be necessary. Call a physician if symptoms develop or persist.

Skin Contact

Take off immediately all contaminated clothing. Get medical attention if irritation develops and persists. Wash skin thoroughly with soap and water for several minutes.

Eye Contact

Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists. Promptly wash eyes with plenty of water while lifting the eye lids.

Ingestion

Call a physician or poison control center immediately. If swallowed, rinse mouth with water (only if the person is conscious). Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs.

Most Important Symptoms / Effects, Acute and Delayed

Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.



Safety Data Sheet

Alpha Pinene



Revision Date: 11/02/2018

Page 5 of 24

Indication of Immediate Medical Attentional and Special Treatment Needed

Not available.

General Advice

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-Fighting Measures

Suitable Extinguishing Media

Water spray, fog, CO₂, dry chemical, or alcohol resistant foam.

Unsuitable Extinguishing Media

Do not use a solid water stream as it may scatter and spread fire.

Specific Hazards Arising from the Chemical

Fire may produce irritating, corrosive and/or toxic gases.

Special Protective Equipment and Precautions for Firefighters

Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection. Wear self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode when fighting fires.

Firefighting Equipment / Instructions

In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Water runoff can cause environmental damage. Ventilate closed spaces before entering them. Keep run-off water out of sewers and water sources. Dike for water control.



Safety Data Sheet

Alpha Pinene



Revision Date: 11/02/2018

Page 6 of 24

Specific Methods

Use water spray to cool unopened containers.

General Fire Hazards

Static charges generated by emptying package in or near flammable vapor may cause flash fire.

6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

Keep unnecessary personnel away. Avoid contact with skin or inhalation of spillage, dust or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Eliminate all sources of ignition.

Methods and Materials for Containment and Cleaning Up

Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb with inert absorbent such as dry clay, sand or diatomaceous earth, commercial sorbents, or recover using pumps.

The product is immiscible with water and will spread on the water surface.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Prevent product from entering drains. Absorb in vermiculite, dry sand or earth and place into containers.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills in original containers for re-use. This material and its



Safety Data Sheet

Alpha Pinene



Revision Date: 11/02/2018

Page 7 of 24

container must be disposed of as hazardous waste. Collect and dispose of spillage as indicated in section 13 of the SDS.

Environmental Precautions

Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid release to the environment. Retain and dispose of contaminated wash water. Contact local authorities in case of spillage to drain/aquatic environment.

7. Handling and Storage

Precautions for Safe Handling

Do not handle or store near an open flame, heat or other sources of ignition. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Avoid breathing vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Wash thoroughly after handling.

Conditions for Safe Storage, Including any Incompatibilities

Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area.

8. Exposure Controls / Personal Protection

Occupational Exposure Limits



Safety Data Sheet

Alpha Pinene



Revision Date: 11/02/2018

Page 8 of 24

US. ACGIH Threshold Limit Values	Material	Type	Value
	PINENE ALPHA (CAS 80-56-8)	TWA	20 ppm
Biological Limit Values	No biological exposure limits noted for the ingredient(s).		
Appropriate Engineering Controls	Use explosion-proof ventilation equipment to stay below exposure limits. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Adequate ventilation should be provided so that exposure limits are not exceeded.		
Individual Protection Measures, Such as Personal Protective Equipment			
Eye / Face Protection	Wear safety glasses with side shields (or goggles). Face shield is recommended.		
Skin Protection			
Hand Protection	Chemical resistant gloves.		
Other	Use of an impervious apron is recommended.		
Respiratory Protection	Respiratory protection not required. If ventilation is insufficient, suitable respiratory protection must be provided.		
Thermal Hazards	Wear appropriate thermal protective clothing, when necessary.		
General Hygiene Considerations	When using do not smoke. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated		



Safety Data Sheet

Alpha Pinene



Revision Date: 11/02/2018

Page 9 of 24

work clothing should not be allowed out of the workplace.

9. Physical and Chemical Properties

Appearance	Refer to Spec Sheet
Physical State	Liquid
Form	Liquid
Color	Refer to Spec Sheet
Odor	Characteristic
Odor Threshold	Not available
pH	Not available
Melting Point / Freezing Point	- 80.5 °F (-62.5 °C)
Initial Boiling Point and Boiling Range	312.8 °F (156 °C) 101.325 kPa
Flash Point	90.0 °F (32.2 °C) Closed Cup
Evaporation Rate	Not available
Flammability (solid, gas)	Not available
Upper / Lower Flammability or Explosive Limits	



Safety Data Sheet

Alpha Pinene



Revision Date: 11/02/2018

Page 10 of 24

Flammability Limit - Lower (%)	Not available
Flammability Limit - Upper (%)	Not available
Explosive Limit - Lower (%)	Not available
Explosive Limit - Upper (%)	Not available
Vapor Pressure	22 - 24 mm Hg at 25 °C
Vapor Density	4.7
Relative Density	Not available
Solubility(ies)	
Solubility (water)	Insoluble
Partition Coefficient (n-octanol/water)	4.83
Auto-ignition Temperature	491 °F (255 °C)
Decomposition Temperature	Not available
Viscosity	Not available
Other Information	
Density	0.86 g/cm ³ estimated at 20 °C
Explosive Properties	Not explosive
Flammability Class	Flammable IC estimated
Molecular Formula	C ₁₀ -H ₁₆



Safety Data Sheet

Alpha Pinene



Revision Date: 11/02/2018

Page 11 of 24

Molecular Weight	136.24 g/mol
Oxidizing Properties	Not oxidizing
Specific Gravity	0.86 at 25 °C

10. Stability and Reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical Stability	Material is stable under normal conditions.
Possibility of Hazardous Reaction	No dangerous reaction known under conditions of normal use.
Conditions to Avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible Materials	Strong oxidizing agents.
Hazardous Decomposition Products	No hazardous decomposition products if stored and handled as indicated.



Safety Data Sheet

Alpha Pinene



Revision Date: 11/02/2018

Page 12 of 24

11. Toxicological Information

Information on Likely Routes of Exposure

Inhalation	Prolonged inhalation may be harmful.
Skin Contact	Causes skin irritation. May cause an allergic skin reaction.
Eye Contact	Causes serious eye irritation. Causes mild eye irritation.
Ingestion	May be harmful if swallowed. Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

Symptoms Related to the Physical, Chemical and Toxicological Characteristics	Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.
---	---

Information on Toxicological Effects

Acute Toxicity	May be fatal if swallowed and enters airways.
-----------------------	---

Product	Species	Test Results
PINENE ALPHA (CAS 80-56-8)		

Acute

Dermal LD50	Rabbit	> 5000 mg/kg
-------------	--------	--------------

Skin Corrosion / Irritation	Causes skin irritation.
------------------------------------	-------------------------



Safety Data Sheet

Alpha Pinene



Revision Date: 11/02/2018

Page 13 of 24

Serious Eye Damage / Eye Irritation Causes serious eye irritation.

Respiratory or Skin Sensitization

Respiratory Sensitization Not a respiratory sensitizer.

Skin Sensitization May cause an allergic skin reaction.

Germ Cell Mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not available.

Reproductive Toxicity This product is not expected to cause reproductive or developmental effects.

Specific Target Organ Toxicity - Single Exposure Not classified.

Specific Target Organ Toxicity - Repeated Exposure Not classified.



Safety Data Sheet

Alpha Pinene



Revision Date: 11/02/2018

Page 14 of 24

Aspiration Hazard May be fatal if swallowed and enters airways.

Chronic Effects Prolonged inhalation may be harmful.

12. Ecological Information

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Product

PINENE ALPHA (CAS 80-56-8)

Species

Test Results

Aquatic

Crustacea LC50

Daphnia magna

41 mg/l, 48 hours

Fish LC50

Fathead minnow (Pimephales promelas)

0.28 mg/l, 96 hours

Persistence and Degradability Biodegradability Biotic/Aerobic
Result: - Readily biodegradable.

Bioaccumulative Potential Partition coefficient n-octanol / water (log Kow)
4.83

Mobility in Soil No data available.

Other Adverse Effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.



Safety Data Sheet

Alpha Pinene



Revision Date: 11/02/2018

Page 15 of 24

13. Disposal Considerations

Disposal Instructions

Do not discharge into drains, water courses or onto the ground. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local Disposal Regulations

Dispose in accordance with all applicable regulations.

Hazardous Waste Code

Not established.

Waste from Residues / Unused Products

Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated Packaging

Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information



Safety Data Sheet

Alpha Pinene



Revision Date: 11/02/2018

Page 16 of 24

ADN

UN Number	2368
UN Proper Shipping Name	alpha-PINENE
Transport Hazard Class(es)	3
Subsidiary Class(es)	-
Packing Group	III
Environmental Hazards	Yes
Labels Required	3

ADR

UN Number	2368
UN Proper Shipping Name	alpha-PINENE
Transport Hazard Class(es)	3
Subsidiary Class(es)	-
Packing Group	III
Environmental Hazards	Yes
Labels Required	3

RID

UN Number	2368
UN Proper Shipping Name	alpha-PINENE
Transport Hazard Class(es)	3



Safety Data Sheet

Alpha Pinene



Revision Date: 11/02/2018

Page 17 of 24

Subsidiary Class(es)	-
Packing Group	III
Environmental Hazards	Yes
Labels Required	3
Special Precautions for User	Read safety instructions, SDS and emergency procedures before handling.

DOT BULK

UN Number	2368
UN Proper Shipping Name	alpha-PINENE
Hazard Class(es)	3
Packing Group	III
Environmental Hazards	
Marine Pollutant	Yes
Labels Required	3

DOT NON-BULK

UN Number	2368
UN Proper Shipping Name	alpha-PINENE
Hazard Class(es)	3
Packing Group	III
Environmental Hazards	



Safety Data Sheet

Alpha Pinene



Revision Date: 11/02/2018

Page 18 of 24

Marine Pollutant	No
Packaging Exceptions	150
Packaging Non Bulk	203
Labels Required	3
Special Precautions for User	Read safety instructions, SDS and emergency procedures before handling.

IATA

UN Number	2368
UN Proper Shipping Name	alpha-PINENE
Transport Hazard Class(es)	3
Subsidiary Class(es)	-
Packing Group	III
Environmental Hazards	No
Labels Required	3

IMDG

UN Number	2368
UN Proper Shipping Name	alpha-PINENE
Transport Hazard Class(es)	3
Subsidiary Class(es)	-
Packing Group	III



Safety Data Sheet

Alpha Pinene



Revision Date: 11/02/2018

Page 19 of 24

Environmental Hazards

Marine Pollutant Yes

Labels Required 3

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

ADN; ADR; DOT BULK; DOT NON-BULK; IATA; IMDG; RID



Marine Pollutant



15. Regulatory Information



Safety Data Sheet

Alpha Pinene



Revision Date: 11/02/2018

Page 20 of 24

US Federal Regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency Release Notification

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not available.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely Hazardous Substance

Not listed.

SARA 311/312 Hazardous Chemical

Yes

Classified Hazard Categories

Flammable (gases, aerosols, liquids, or solids)
Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitization



Safety Data Sheet

Alpha Pinene



Revision Date: 11/02/2018

Page 21 of 24

Aspiration hazard
Hazard not otherwise classified (HNOC)

SARA 313 (TRI reporting)

Not regulated.

Other Federal Regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

US State Regulations

California Proposition 65

California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed Substance

Not listed.

International Inventories

Country(s) or Region	Inventory Name	On Inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No



Safety Data Sheet

Alpha Pinene



Revision Date: 11/02/2018

Page 22 of 24

China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Toxic Chemical Substances (TCS)	Yes
United States and Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

*A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other Information



Safety Data Sheet

Alpha Pinene



Revision Date: 11/02/2018

Page 23 of 24

Issue Date 11/01/2018
Revision Date New Document
Version # 00

HMIS® Ratings

Health 2*
Flammability 3
Physical Hazard 0

Disclaimer

True Terpenes cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. The above information relates only to this product and not to its use in combination with any other material or any particular process and is designed only as guidance for the safe handling, use, processing, storage, transportation, and disposal and should not be considered as a guarantee or quality specification. This product has not been evaluated for safe use in e-cigarettes or any vaping application where the product(s) is/are intentionally vaporized and inhaled. True Terpenes has performed no testing on these products in e-cig/vaping applications. It is the sole responsibility of the individual(s) purchasing this product to assess its' safety in the final application. The above information relates only to this product and not to its use in combination with any other material or any particular process and is designed only as guidance for the safe handling, use, processing, storage, transportation, disposal, and should not be considered as a guarantee or quality specification. The above information is based on data provided by and collected from recognized



Safety Data Sheet

Alpha Pinene



Revision Date: 11/02/2018

Page 24 of 24

sources such as distributors, manufacturers, and technical groups and is considered to be accurate to the best of True Terpenes knowledge as of the date of this document. It is the responsibility of the user to review all safety information about this product and determine its safety and suitability in their own processes and operations. Appropriate warnings and safe handling procedures should be provided to all handlers and users, taking into account the intended use and the specific conditions and factors relating to such use in accordance with all applicable laws and regulations.

