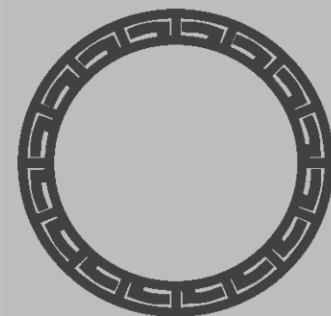


Material Safety Data Sheet



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Beta Pinnene

Product Code: SO-TE0020

Department: solvents

C.A.S.: 127-91-3

Section: 1 Identification

Product name : (-)- β -Pinene
Synonyms : (1S)-(-)- β -Pinene
(1S,5S)-2(10)-Pinene
(1S,5S)-6,6-Dimethyl-2-methylenebicyclo[3.1.1]heptane
Formula : C₁₀H₁₆
Molecular weight : 136.23 g/mol
Category: aromatic solvent

Section: 2 Hazard Identification

Emergency Overview

WHMIS Classification

B2	Flammable liquid	Flammable liquid
D2B	Toxic Material Causing Other Toxic Effects	Moderate skin irritant Moderate respiratory irritant Moderate eye irritant Skin sensitiser

HMS Classification

Health hazard:	2
Flammability:	3
Physical hazards:	0

Potential Health Effects

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Skin	May be harmful if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation.
Ingestion	May be harmful if swallowed. Aspiration hazard if swallowed - can enter lungs and cause damage.

SGH Label Elements



Signal Word

danger

GHS Classification

flammable liquids

Cat

skin irritation Cat.2

skin sensitizer Cat.1

aspiration hazard Cat.1

Hazard Statements

H226 Flammable liquid and vapour

H304 may be fatal if swallowed and enters airways

H315 causes skin irritation

H317 may cause an allergic skin reaction

Precautionary Statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P233 Keep container tightly closed.

P240 Ground and bond container and receiving equipment.

P241 Use explosion-proof [electrical/ventilating/lighting/...] equipment.

P242 Use non-sparking tools.

P243 Take action to prevent static discharges.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P264 Wash hands thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P331 Do NOT induce vomiting.

P301 + 310 IF SWALLOWED: Immediately call a POISON CENTER

P332 + P313 If skin irritation occurs: Get medical advice/attention.

P302 + 352 IF ON SKIN: Wash with plenty of water

P403 + P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up.

P501 dispose of contents/container in accordance with local/regional/national/international regulations.

Section: 3 Composition / Information on Ingredients

CAS-No.	EC-No.	Index-No.	Concentration
18172-67-3	242-060-2	-	<=100%

Section: 4 First-Aid Measures

General advice	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
If inhaled	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact	Wash off with soap and plenty of water. Consult a physician.
In case of eye contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Section: 5 Fire-Fighting Measures

Conditions of flammability	Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.
Suitable extinguishing media	For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.
Special protective equipment for firefighters	Wear self-contained breathing apparatus for firefighting if necessary.
Hazardous combustion products	Hazardous decomposition products formed under fire conditions. - Carbon oxides
Explosion data - sensitivity to mechanical impact	No data available
Explosion data - sensitivity to static discharge	No data available
Further information	Use water spray to cool unopened containers.

Section: 6 Accidental Release Measures

Personal precautions	Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
Methods and materials for containment and cleaning up	Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

Section: 7 Handling And Storage

Precautions for safe handling	Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.
Conditions for safe storage	Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Section: 8 Exposure Control/Personal Protection

Respiratory protection	Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Hand protection	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
Eye protection	Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Skin and body protection	Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Hygiene measures	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Specific engineering controls	Use mechanical exhaust or laboratory fumehood to avoid exposure.

Section: 9 Physical and Chemical Properties

Appearance	
Form:	clear, liquid
Colour:	light yellow
Safety data	
pH:	No data available
Melting point/range:	-61 °C (-78 °F) - lit.
Boiling point:	165 - 167 °C (329 - 333 °F) - lit.
Flash point:	36 °C (97 °F) - closed cup
Ignition temperature:	No data available
Auto-ignition temperature:	No data available
Lower explosion limit:	No data available
Upper explosion limit:	No data available
Vapour pressure:	3 hPa (2 mmHg) at 20 °C (68 °F)
Density:	0.859 g/cm ³ at 25 °C (77 °F)
Water solubility:	No data available
Partition coefficient: :	n-octanol/water No data available
Relative vapour density (Air = 1.0):	4.7
Odour:	No data available
Odour Threshold:	No data available
Evaporation rate:	No data available

Section: 10 Stability And Reactivity

Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	Vapours may form explosive mixture with air.
Conditions to avoid	Heat, flames and sparks.
Materials to avoid	Strong oxidizing agents
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions. - Carbon oxides
Other decomposition products	No data available

Section: 11 Toxicological Information

Acute toxicity	
Oral LD50:	No data available
Inhalation LC50:	No data available
Dermal LD50:	No data available
Other information on acute toxicity:	No data available
Skin corrosion/irritation:	No data available
Serious eye damage/eye irritation:	No data available
Respiratory or skin sensitisation:	May cause allergic skin reaction. May cause sensitisation by skin contact.
Germ cell mutagenicity:	No data available
Carcinogenicity	
IARC:	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
Reproductive toxicity:	No data available
Teratogenicity:	No data available
Specific target organ toxicity	
single exposure (Globally Harmonized System):	Inhalation - May cause respiratory irritation.
repeated exposure (Globally Harmonized System):	No data available
Aspiration hazard:	The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.
Potential health effects	
Inhalation:	May be harmful if inhaled. Causes respiratory tract irritation.
Ingestion:	May be harmful if swallowed. Aspiration hazard if swallowed - can enter lungs and cause damage.
Skin:	May be harmful if absorbed through skin. Causes skin irritation.
Eyes:	Causes eye irritation.
Signs and Symptoms of Exposure:	To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Synergistic effects:	No data available
Additional Information:	RTECS: Not available

Section: 12 Ecological Information

Toxicity:	No data available
Persistence and degradability:	No data available
Bioaccumulative potential:	No data available
Mobility in soil:	No data available
PBT and vPvB assessment:	No data available
Other adverse effects:	No data available

Section: 13 Disposal Considerations

Product	Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.
Contaminated packaging	Dispose of as unused product.

Section: 14 Transport Information

DOT (US)		
UN number:	2319 Class: 3	Packing group: III
Proper shipping name:	Terpene hydrocarbons, n.o.s.	
Marine pollutant:	No	
Poison Inhalation Hazard:	No	
IMDG		
UN number:	2319 Class: 3	Packing group: III EMS-No: F-E, S-D
Proper shipping name:	TERPENE HYDROCARBONS, N.O.S.	
Marine pollutant:	No	
IATA		
UN number: 2319 Class: 3	Packing group: III	
Proper shipping name:	Terpene hydrocarbons, n.o.s.	

Section: 15 Regulatory Information

WHMIS Classification		
B2	Flammable liquid	Flammable liquid
D2B	Toxic Material Causing Other Toxic Effects	Moderate skin irritant
		Moderate respiratory irritant
		Moderate eye irritant
		Skin sensitiser

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Section: 16 Other Information

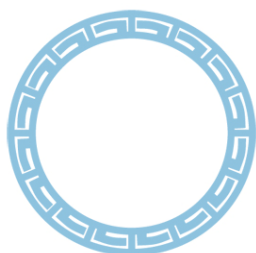
reference	manufacturer's material safety data sheet
prepared by	Kama pigments

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