SAFETY DATA SHEETS

1.Identification

1.1GHS Product identifier

Product name	α-pinene

1.2Other means of identification

Product number	-
Other names	N-Boc-valinol

1.3Recommended use of the chemical and restrictions on use

Identified uses	For industry use only.
Uses advised against	no data available

1.4Supplier's details

Company	Peak Supply Co
Address	5664 Cahuenga blvd. North Hollywood CA 91601
Telephone	(818) 308-6227

1.5Emergency phone number

Emergency phone number	
Service hours	Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

2.Hazard identification

2.1Classification of the substance or mixture

Skin irritation, Category 2

2.2GHS label elements, including precautionary statements

Pictogram(s)	
Signal word	Warning
Hazard statement(s)	H315 Causes skin irritation

Precautionary statement(s)	
Prevention	P264 Wash ... thoroughly after handling.
	P280 Wear protective gloves/protective clothing/eye protection/face protection.
Response	P302+P352 IF ON SKIN: Wash with plenty of water/...
	P321 Specific treatment (see ... on this label).
	P332+P313 If skin irritation occurs: Get medical advice/attention.
	P362+P364 Take off contaminated clothing and wash it before reuse.
Storage	none
Disposal	none

2.3Other hazards which do not result in classification

none

3.Composition/information on ingredients

3.1Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
α-pinene	α-pinene	2437-95-8	none	100%

4.First-aid measures

4.1Description of necessary first-aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

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

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2Most important symptoms/effects, acute and delayed

no data available

4.3Indication of immediate medical attention and special treatment needed, if necessary

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR if necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on the left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. /Turpentine, terpenes, and related compounds/

5.Fire-fighting measures

5.1Extinguishing media

Suitable extinguishing media

Foam, carbon dioxide, dry chemical

5.2Specific hazards arising from the chemical

no data available

5.3Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

6.Accidental release measures

6.1Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3Methods and materials for containment and cleaning up

Cover with an activated carbon adsorbent, take up and place in closed containers.

7.Handling and storage

7.1Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use.Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2Conditions for safe storage, including any incompatibilities

Keep container closed. Keep away from heat, sparks, and open flame.

8.Exposure controls/personal protection

8.1Control parameters

Occupational Exposure limit values

no data available

Biological limit values

no data available

8.2Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

8.3Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. 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. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Respiratory protection

Wear dust mask when handling large quantities.

Thermal hazards

no data available

9.Physical and chemical properties

Physical state	liquid with a turpentine odour
Colour	Colorless, transparent liquid
Odour	CHARACTERISTIC ODOR OF PINE
Melting point/ freezing point	-55ºC
Boiling point or initial boiling point and boiling range	157.9ºC at 760 mmHg

Flammability	no data available
Lower and upper explosion limit / flammability limit	no data available
Flash point	32.2ºC
Auto-ignition temperature	491 deg F (255°C)
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	1.303 cP at 25°C
Solubility	ALMOST INSOLUBLE IN PROPYLENE GLYCOL & GLYCERINE
Partition coefficient n-octanol/water (log value)	log Kow = 4.83
Vapour pressure	3.49mmHg at 25°C
Density and/or relative density	0.879g/cm3
Relative vapour density	4.7 (Air = 1)
Particle characteristics	no data available

10.Stability and reactivity

10.1Reactivity

no data available

10.2Chemical stability

Stable under recommended storage conditions.

10.3Possibility of hazardous reactions

Flammable liquid. A dangerous fire hazard when exposed to heat, flame, or oxidizing materials.

10.4Conditions to avoid

no data available

10.5Incompatible materials

As the nitrosyl percholate anhydride of nitrous and perchloric acids, it is a very powerful oxidant.

10.6Hazardous decomposition products

no data available

11.Toxicological information

Acute toxicity

- Oral: LD50 Rat oral 3700 mg/kg
- Inhalation: no data available
- Dermal: no data available

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

STOT-single exposure

no data available

STOT-repeated exposure

no data available

Aspiration hazard

no data available

12.Ecological information

12.1Toxicity

- Toxicity to fish: LC50; Species: Pimephales promelas (Fathead minnow); Conditions: feshwater, semi-static, 25.5°C, pH 7.70 + or -0.2, oxygen concentration 6.7 mg/mL; Concentration: 0.28 mg/L for 96 hr /98% pure 1R(+)-isover. Measured purity 91%/[USEPA; High Production Volume Information System (HPVIS). Detailed Chemical Results Chemical Name: Bicyclo
- Toxicity to daphnia and other aquatic invertebrates: LC50; Species: Daphnia magna (Water flea, age <24 hr); Conditions: freshwater, static, 22°C, pH 8.0 (7.4-9.4), hardness 173 mg/L CaCO3, dissolved oxygen >60%; Concentration: 68000 ug/L for 24 hr (95% confidence interval: 24000-190000 ug/L) /commercial grade >80%
- Toxicity to algae: no data available
- Toxicity to microorganisms: no data available

12.2Persistence and degradability

AEROBIC: Soil slurry samples taken from three different Georgia watersheds were found to readily degrade alpha-pinene under aerobic conditions, undergoing complete removal within 250 hours after a short lag period(1,2). The concentration of alpha-pinene in seawater samples decreased from 0.41 ng/L to 0.25 ng/L when incubated with macrophytes for 6 hrs at 10°C(3). The concentration of alpha-pinene in the influent to a kraft mill aerated stabilization basin with a 7-8 day retention time decreased from 0.20 ppm to 0.04 ppm(4). alpha-Pinene, present at 100 mg/L, reached 95% of its theoretical BOD in 4 weeks using an activated sludge inoculum at 30 mg/L in the Japanese MITI test(5).

12.3Bioaccumulative potential

An estimated BCF of 1,040 was calculated in fish for alpha-pinene(SRC), using a log Kow of 4.83(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is very high(SRC), provided the compound is not metabolized by the organism(SRC).

12.4Mobility in soil

The Koc of alpha-pinene is estimated as 2,600(SRC), using a water solubility of 2.49 mg/L(1) and a regression-derived equation(2). According to a classification scheme(3), this estimated Koc value suggests that alpha-pinene is expected to have slight mobility in soil.

12.5Other adverse effects

no data available

13.Disposal considerations

13.1Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

14.Transport information

14.1UN Number

ADR/RID: UN2368 IMDG: UN2368 IATA: UN2368

14.2UN Proper Shipping Name

ADR/RID: alpha-PINENE

IMDG: alpha-PINENE

IATA: alpha-PINENE

14.3Transport hazard class(es)

ADR/RID: 3 IMDG: 3 IATA: 3

14.4Packing group, if applicable

ADR/RID: III IMDG: III IATA: III

14.5Environmental hazards

ADR/RID: no IMDG: no IATA: no

14.6Special precautions for user

no data available

14.7Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

no data available

15.Regulatory information

15.1Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
α-pinene	α-pinene	2437-95-8	none
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Not Listed.
China Catalog of Hazardous chemicals 2015			Not Listed.
New Zealand Inventory of Chemicals (NZIoC)			Not Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Not Listed.
Vietnam National Chemical Inventory			Not Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Not Listed.

16.Other information

Information on revision

Creation Date Aug 19, 2017

Revision Date Aug 19, 2017

Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road