TCI (Shanghai) DEVELOPMENT CO., LTD.

(1S)-(-)-α-Pinene

Revision number: 1

Revision date: 12/01/2010

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SAFETY DATA SHEET

Category 3

Category 2

Category 1

Category 1

Category 2A

1. IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

Product name: Product code: Company: Address: Responsible Department: Telephone: Fax: e-mail: Revision number: (1S)-(-)-α-Pinene P0440 TCI (Shanghai) DEVELOPMENT CO., LTD. No.96 Pu Gong Road, Shanghai Chemical Industry Park, Shanghai 201507 China Sales Department +86-(0)21-67121386 +86-(0)21-67121385 sales@tcishanghai.com.cn 1

2. HAZARDS IDENTIFICATION Classification of the GHS PHYSICAL HAZARDS Flammable liquids HEALTH HAZARDS Skin corrosion/irritation Serious eye damage/eye irritation Skin sensitization ENVIRONMENTAL HAZARDS Acute aquatic toxicity GHS label elements Pictograms or hazard symbols



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Signal word Hazard statement Warning Flammable liquid and vapour Causes skin irritation Causes serious eye irritation May cause an allergic skin reaction Very toxic to aquatic life

Precautionary statements [Prevention]

Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against ignition by the static discharge and the spark. Avoid breathing. Avoid release to the environment.

Contaminated work clothing should not be allowed out of the workplace. Wash hands thoroughly after handling.

Wear protective gloves/eye protection/face protection.

2.	HAZARDS IDENTIFICATION [Response]	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
	[Storage] [Disposal]	Collect spillage. Store in a well-ventilated place. Keep cool. Dispose of contents/container through a waste management company authorized by the local government
3.	COMPOSITION/INFORMATIC Substance/mixture: Component(s):	DN ON INGREDIENTS Substance (1S)-(-)-α-Pinene

(1S)-(-)-α-Piner
>96.0%(GC)
7785-26-4
$C_{10}H_{16}$

4. FIRST AID MEASURES

Inhalation:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell. Remove/Take off immediately all contaminated clothing. Gently wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.	
Skin contact:		
Eye contact:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.	
Ingestion:	Get medical advice/attention if you feel unwell. Rinse mouth.	
Protection of first-aiders:	A rescuer should wear personal protective equipment, such as rubber gloves and air- tight goggles.	

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media:	Dry chemical, foam, carbon dioxide.
Extinguishing media not to be used:	Water (It may scatter and spread fire.)
Specific methods:	Fire-extinguishing work is done from the windward and the suitable fire-extinguishing method according to the surrounding situation is used. Uninvolved persons should evacuate to a safe place. In case of fire in the surroundings: Keep containers cool by spraying with water. Eliminate all ignition sources if safe to do so.
Special protective equipment for firefighters:	When extinguishing fire, be sure to wear personal protective equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions,	Use personal protective equipment. Keep people away from and upwind of spill/leak.		
protective equipment and	Ensure adequate ventilation. Entry to non-involved personnel should be controlled		
emergency procedures:	around the leakage area by roping off, etc.		
Environmental precautions:	Be careful not to let it flow into rivers, etc., since adverse effects on the environment are concerned.		
Methods and materials for	Absorb spilled material in dry sand or inert absorbent before recovering it into an		
containment and cleaning	airtight container. In case of large amount of spillage, contain a spill by bunding.		
up:	Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.		
Prevention of secondary hazards:	Remove all sources of ignition. Fire-extinguishing devices should be prepared in case of a fire. Use spark-proof tools and explosion-proof equipment.		

7. HANDLING AND STORAGE Handling	
Technical measures:	Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent generation of vapor or mist. Keep away from heat/sparks/open flame/hot surfacesNo smoking. Take measures to prevent the build up of electrostatic charge. Use explosion-proof equipment. Wash hands and face thoroughly after handling.
	Use a closed system if possible. Use a ventilation, local exhaust if vapor or aerosol will be generated.
Advice on safe handling: <u>Storage</u>	Avoid contact with skin, eyes and clothing.
Storage conditions:	Keep container tightly closed. Store in a cool, dark and well-ventilated place. Store away from incompatible materials such as oxidizing agents.
Packaging material:	Law is followed.
8. EXPOSURE CONTROLS / P Engineering controls:	ERSONAL PROTECTION Install a closed system or local exhaust. Also install safety shower and eye bath.

Engineering controls: Install a closed system or local exhaust. Also install safety shower and eye bath. **Personal protective equipment**

Respiratory protection:	Vapor respirator. Follow local and national regulations.	
Hand protection:	Protective gloves.	
Eye protection:	Safety glasses. A face-shield, if the situation requires.	
Skin and body protection:	Protective clothing. Protective boots, if the situation requires.	

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state (20°C): Form:	Liquid clear
Color:	Colorless - Very pale yellow
Odor:	Characteristic
pH:	No data available
Melting point/freezing poin	t:-64 °C
Boiling Point/Range:	155 °C
Flash Point:	32°C
Explosive limits	
Lower:	No data available
Upper:	No data available
Vapor Pressure:	3.1kPa/50°C
Vapor Density:	4.7
Density:	0.86
Solubility:	Soluble in : Ethanol Ether Chloroform
	Insoluble in: Water
log Pow =	4.83

10. STABILITY AND REACTIVITY

Stability:	Stable under proper conditions.
Reactivity:	No special reactivity has been reported.
Incompartible materials:	oxidizing agents
Hazardous Decomposition	Carbon monoxide, Carbon dioxide
Products:	

11. TOXICOLOGICAL INFORMATION

Acute Toxicity:	No data available
Skin corrosion/irritation:	No data available
Serious eye	No data available
damage/irritation:	
Germ cell mutagenicity:	No data available
Carcinogenicity:	
IARC =	No data available

11. TOXICOLOGICAL INFORMATION

NTP =	No data available
Reproductive toxicity:	No data available

12. ECOLOGICAL INFORMATION

Ecotoxicity:	
Fish:	No data available
Crustacea:	No data available
Algae:	No data available
Persistence / degradability:	No data available
Bioaccumulative	No data available
potential(BCF):	
Mobillity in soil	
log Pow:	4.83
Soil adsorption (Koc):	No data available
Henry's Law	No data available
constant(PaM ³ /mol):	

13. DISPOSAL CONSIDERATIONS

Recycle to process, if possible. Consult your local regional authorities. You may be able to burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state and local regulations when disposing of the substance.

14. TRANSPORT INFORMATION

Hazards Class:	3: Flammable liquid.
UN-No:	2368
Proper shipping name:	alpha-Pinene
Packing group:	III

15. REGULATORY INFORMATION

Safe management ordinance of dangerous chemical product (State Council announces on January 26, 2002): Safe use and production, the storage of a dangerous chemical, transport, loading and unloading were prescribed.

The list of a dangerous chemical(2002)/CN-No.: 33642

16. OTHER INFORMATION

The reference company name of written contents

Company:	TCI (Shanghai) DEVELOPMENT CO., LTD.
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This MSDS was prepared sincerely on the basis of the information we could obtained, however, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority.products are supposed to be used promptly after purchase in consideration of safety. Some new information or amendments may be added afterwards. If the products are to be used far behind the expected time of use or you have any questions, please feel free to contact us. The stated cautions are for normal handling only. In case of special handling, sufficient care should be taken, in addition to the safety measures suitable for the situation. All chemical products should be treated with the recognition of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set up on each user's own responsibility.