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# PINE CHEMICALS

# BROCHURE

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# About Us

Tradeasia International Pte. Ltd. is a privately owned, independent company headquartered in Singapore. We are a global trading organization providing integrated chemical procurement services with certainty and trust, which makes Tradeasia unique.



Tradeasia International was setup with the sole intention of carrying out chemical distribution services especially to commodity industries in many parts of the world. Today, Tradeasia International represents a growing number of businesses that are serving a variety of markets. We source and supply about 500-600 containers monthly to our customers worldwide.

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**Locations**

50+

**Suppliers**

500+

**Products**

400+

**Clients**

# Oleo Pine Resin (OPR)

Oleo Pine Resin is a natural mixture of oil, carboxylic acid and oxygenated product of terpene derived from Pine tree. These resins are in liquid gummy form in early stage, but it hardens with time and treatment. The resins compounds are classified in differently depending on its chemical composition and its application. Resins produced from pine are known as naval storage.

HS Code : 1301.90.90.00  
CAS No. : 8050-09-7  
Origin : Indonesia  
Packaging : 105 @ 200 kg Drum with Plastic Inner, 21 MT / 20'FCL



## Specifications:

Property	Unit	Value
Appearance	%	Light green liquid
Moisture and Water	%	9.49
Turpentine Oil	%	14.19
Gum Rosin	%	71.16
Impurities	%	5.16

## Applications :



### Food Industry

Oleo pine resins are used as food glazing agents.



### Turpentine Oil Manufacture

It is used as a raw material to get turpentine oils which are used in perfume, camphor, cosmetics and varnish industry.



### Paint Industry

Oleo pine resins are easily soluble in alcohols and other solvents and they have high refractive index which makes them glossy. Therefore, oleo pine resins or their derivatives are major component in paint industry.



### Gum Rosin Manufacturing

Oleo pine resin is used as raw material to get gum rosin which has variety of applications in paint and varnish, adhesive, soap, paper and as an intermediate for organic compounds and modified resins.



### Therapeutic Uses

Oleo resins such as copaiba is used to treat stomach cancer and ulcer. It is used for therapeutic purpose and incense.

# Gum Turpentine Oil 80%

Turpentine oil with molecular formula  $C_{10}H_{16}$  is a transparent colorless thin volatile liquid that has a characteristic odor. It is also known as spirits of turpentine and oil of turpentine. It is the main constituent of the pine tree obtained by the distillation of resins of a living pine tree. The important Pines used for the production of turpentine oil are Longleaf pine and Maritime pine.

HS Code	: 3805.20.00
CAS No.	: 8006-64-2
Origin	: Indonesia
Packaging	: ISO Tank (20 MTs)



## Specifications:

Property	Unit	Value
Alpha Pinene	%	> 80
Acid Value	mg KOH/ g TO	< 2
Optical Rotation	°C	> 32
Odor	-	Turpentine
Specific Gravity at 25°C	gr/ml	0.848 - 0.865
Refractive Index at 20°C	-	1.464 - 1.478
Distillation Temperature at 760 mmHg	°C	150 - 160
Distillate Under Temperature 170°C	%	≥ 90
Flash Point	°C	33 - 38
Residue After Evaporation	%	< 2
Color	-	Clear

## Applications:



### Solvent Industry

Turpentine oil is used as a solvent for phosphorus, wax, rubber, sulfur, etc. It is also used as a solvent in oil paints as it maintains the oiliness of the color.



### Cleaning Agent

The antiseptic properties in turpentine make it a very good cleaning product to use to get rid of bacteria and germs on many different surfaces.



### Pharmaceutical Industry

Turpentine oil is applied to the skin to reduce joint pain, muscle pain, nerve pain, and toothaches.

Category: Gum Turpentine Oil

# Gum Turpentine Oil 45%

Turpentine oil with molecular formula  $C_{10}H_{16}$  is a transparent colorless thin volatile liquid that has a characteristic odor. It is also known as spirits of turpentine and oil of turpentine. It is the main constituent of the pine tree obtained by the distillation of resins of a living pine tree. The important Pines used for the production of turpentine oil are Longleaf pine and Maritime pine.



HS Code : 3805.20.00  
CAS No. : 8006-64-2  
Origin : Vietnam  
Packaging : • 180kg HDPE drum (14.40 MT)  
• Bulk ISO Tank (20 MT)

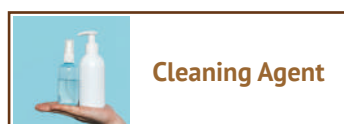
## Specifications:

Property	Unit	Value
$\alpha$ -Pinene	%	45 min
Camphene	%	1 min
$\beta$ -Pinene	%	3.8 min
$\beta$ -Myrcene	%	0.6 min
3-Carene	%	14 min
Limonene	%	2 min
$\beta$ -Phellandrene	%	0.92 $\pm$ 1
Cymol	%	0.51 $\pm$ 1
$\gamma$ -Terpinene	%	0.8 max
Aromandendrene	%	6 min
$\beta$ -Caryophyllene	%	0.85 $\pm$ 1
Specific Gravity (20°C)	g/mL	0.960 to 0.991
Optical Rotation (20°C)	-	-2° to +2°
Refractive Index (20°C)	-	1.546 to 1.564
Appearance	-	Clear or pale yellow

## Applications:



Turpentine oil is used as a solvent for phosphorus, wax, rubber, sulfur, etc. It is also used as a solvent in oil paints as it maintains the oiliness of the color.



The antiseptic properties in turpentine make it a very good cleaning product to use to get rid of bacteria and germs on many different surfaces.

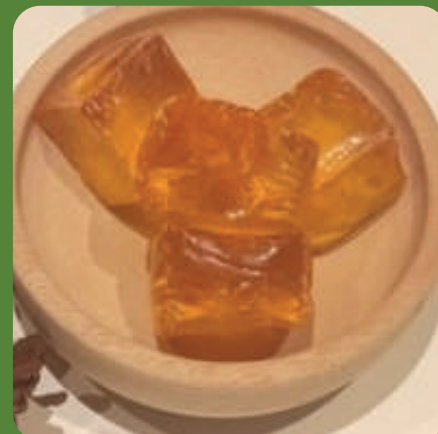


Turpentine oil is applied to the skin to reduce joint pain, muscle pain, nerve pain, and toothaches.

Category: Gum Rosin

# Gum Rosin Grade X

Gum Rosin (GR) is product consisting essentially of a mixture of gum and resin usually obtained by making an incision in a plant and allowing the juice which exudes to solidify. GR also is a non-volatile component of crude gum which is included largely in plants belonging to pine family (Pinaceae). It mainly consists of a various isomer technically called resin acids.



HS Code : 3806.10.00  
CAS No. : 8050-09-7  
Origin : Indonesia  
Packaging : 80 drum (240kg) total N.W 19200kg

## Specifications:

Property	Unit	Value
Softening Point (R & B)	°C	≥ 78
Impurity/Insoluble Content	%	≤ 0.02
Acid Value	-	160 - 190
Saponification Value	-	170 - 220
Iodine Value	-	5 - 25
Ash Content	%	≤ 0.02
Volatile Oil Content	%	≤ 2
Color	-	≤ 6

## Applications:



### Cosmetic Industry

The residue left after the distillation of the volatile oil of oleoresin obtained from *Pinus palustris* and other species of Pinaceae. It is less and less used in cosmetics for the benefit of its esters.



### Adhesive Industry

Rosin, or more correctly rosin acid, is one of the oldest raw materials for the adhesives industry, either as such or converted to derivatives.



### Pulp and Paper Industry

Rosin is added to paper pulp to increase resistance to water and other liquids. Alum (short for aluminum sulfate) is added to help the rosin adhere to the paper fibers.

# Gum Rosin Grade WW



Gum Rosin (GR) is a product consisting essentially of a mixture of gum and resin usually obtained by making an incision in a plant and allowing the juice which exudes to solidify. GR also is a non-volatile component of crude gum which is included largely in plants belonging to pine family (Pinaceae). It mainly consists of a various isomer technically called resin acids.

HS Code : 3806.10.00  
 CAS No. : 8050-09-7  
 Origin : Argentina, Brazil, China, Indonesia  
 Packaging : check Specification table

## Specifications:

Parameters	Argentina Origin	Brazil Origin	China Origin	Indonesia Origin	Vietnam Origin
Softening Point	75°C (min)	70 - 80°C	76°C (min)	≥ 78°C	80°C (min)
Color Gardner (R&B)	6 min	7 max	-	≤ 7	8 max
Acid Value	158 - 168 mg KOH/g	160 - 170 mg/g	166 mg KOH/g (min)	160 - 190 mg KOH/g	180 - 195 mg KOH/g
Unsaponifiable Matter	10 min	-	5% (max)	-	-
Saponification Value	170 - 175 mg KOH/g	165 - 190 mg/g	-	170 - 220 mg KOH/g	180 - 220 mg KOH/g
Crystallization Time	24h (max)	> 36h	-	-	-
Insoluble Content	-	-	0.03% (max)	≤ 0.05%	0.03% (max)
Ash Content	-	-	0.02% (max)	≤ 0.04%	0.03% (max)
Iodine Value	-	-	-	5 - 25%	-
Volatile Oil Content	-	-	-	≤ 2.5%	-
Solubility	Soluble in Ethanol, Xylene, N-Heptane and Ketone	-	-	-	-
Appearance	Solid crisp, light yellow to dark brown of resinous smell	-	Pale yellow or transparent	-	Transparent
Packaging	250kg Galvanized drum (20 MT/20'FCL)	250kg Galvanized iron drum; 25kg Net Raffla bag	225kg Galvanized iron drum; 25kg Net Kraft paper bag	80 drum (2040kg) Total N.W 19200kg	225 - 250kg Galvanized iron drum

## Applications:



**Cosmetic Industry**

The residue left after the distillation of the volatile oil of oleoresin obtained from Pinus palustris and other species of Pinaceae. It is less and less used in cosmetics for the benefit of its esters.



**Adhesive Industry**

Rosin, or more correctly rosin acid, is one of the oldest raw materials for the adhesives industry, either as such or converted to derivatives.



**Pulp & Paper Industry**

Rosin is added to paper pulp to increase resistance to water and other liquids. Alum (short for aluminum sulfate) is added to help the rosin adhere to the paper fibers.



Category: Gum Rosin

# Gum Rosin Grade WG

Gum Rosin (GR) is product consisting essentially of a mixture of gum and resin usually obtained by making an incision in a plant and allowing the juice which exudes to solidify. GR also is a nonvolatile component of crude gum which is included largely in plants belonging to pine family (Pinaceae). It mainly consists of a various isomer technically called resin acids.



HS Code : 3806.10.00  
CAS No. : 8050-09-7  
Origin : Indonesia  
Packaging : 80 drum (240kg) total N.W 19200kg

## Specifications:

Property	Unit	Value
Softening Point (R & B)	°C	≥ 76
Impurity/Insoluble Content	%	≤ 0.07
Acid Value	-	160 - 190
Saponification Value	-	170 - 220
Iodine Value	-	5 - 25
Ash Content	%	≤ 0.05
Volatile Oil Content	%	≤ 3
Color	-	≤ 8

## Applications:

### Cosmetic Industry

The residue left after the distillation of the volatile oil of oleoresin obtained from *Pinus palustris* and other species of Pinaceae. It is less and less used in cosmetics for the benefit of its esters.



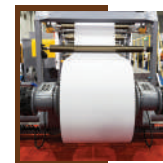
### Adhesive Industry

Rosin, or more correctly rosin acid, is one of the oldest raw materials for the adhesives industry, either as such or converted to derivatives.



### Pulp and Paper Industry

Rosin is added to paper pulp to increase resistance to water and other liquids. Alum (short for aluminum sulfate) is added to help the rosin adhere to the paper fibers.



# Gum Rosin Grade K

Gum Rosin (GR) is product consisting essentially of a mixture of gum and resin usually obtained by making an incision in a plant and allowing the juice which exudes to solidify. GR also is a nonvolatile component of crude gum which is included largely in plants belonging to pine family (Pinaceae). It mainly consists of a various isomer technically called resin acids.

HS Code : 3806.10.00  
 CAS No. : 8050-09-7  
 Origin : Argentina  
 Packaging : 250kg Galvanized drum (20 MT/20'FCL)

## Specifications:

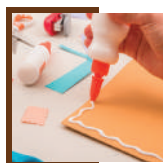
Property	Unit	Value
Softening Point (R & B)	°C	75 min
Color Gardner, 50% ol	-	6 min
Color Gardner, 70% ol	-	6 min
Acidity Index	mg KOH/g	160 - 170
Unsaponifiable Matter	°C	10 min
Saponification Value	°C	170 - 175
Crystallization Time	h	24 max
Solubility	-	Soluble in Ethanol, Xylene, N-Heptane and Ketone
Appearance	-	Solid crisp, light yellow to dark brown of Resinous smell
Variety	-	Pinus Elliotti

## Applications:



### Cosmetic Industry

The residue left after the distillation of the volatile oil of oleoresin obtained from *Pinus palustris* and other species of Pinaceae. It is less and less used in cosmetics for the benefit of its esters.



### Adhesive Industry

Rosin, or more correctly rosin acid, is one of the oldest raw materials for the adhesives industry, either as such or converted to derivatives.



### Pulp and Paper Industry

Rosin is added to paper pulp to increase resistance to water and other liquids. Alum (short for aluminum sulfate) is added to help the rosin adhere to the paper fibers.

Category: Gum Rosin

# Gum Rosin Grade M

Gum Rosin (GR) is product consisting essentially of a mixture of gum and resin usually obtained by making an incision in a plant and allowing the juice which exudes to solidify. GR also is a nonvolatile component of crude gum which is included largely in plants belonging to pine family (Pinaceae). It mainly consists of a various isomer technically called resin acids.



HS Code	: 3806.10.10
CAS No.	: 8050-09-7
Origin	: Nepal
Packaging	: • 250kg Net Zink drum • 25kg Net each bag

## Specifications:

Property	Unit	Value
Color	-	Yellow brown
Softening Point	°C	74 min
Acid Value	mg KOH/g	164 min
Alcohol Insoluble Substance	%	0.04 max
Unsaponifiable Matter	%	6 max
Ash Content	%	0.04 max

## Applications:



### Cosmetic Industry

The residue left after the distillation of the volatile oil of oleoresin obtained from *Pinus palustris* and other species of Pinaceae. It is less and less used in cosmetics for the benefit of its esters.



### Adhesive Industry

Rosin, or more correctly rosin acid, is one of the oldest raw materials for the adhesives industry, either as such or converted to derivatives.



### Pulp and Paper Industry

Rosin is added to paper pulp to increase resistance to water and other liquids. Alum (short for aluminum sulfate) is added to help the rosin adhere to the paper fibers.

# Gum Rosin Grade N



Gum Rosin (GR) is product consisting essentially of a mixture of gum and resin usually obtained by making an incision in a plant and allowing the juice which exudes to solidify. GR also is a nonvolatile component of crude gum which is included largely in plants belonging to pine family (Pinaceae). It mainly consists of a various isomer technically called resin acids.

HS Code	: 3806.10.10
CAS No.	: 8050-09-7
Origin	: Nepal
Packaging	: • 250kg Net Zink drum • 25kg Net each bag

## Specifications:

Property	Unit	Value
Color	-	Deep yellow
Softening Point	°C	75 min
Acid Value	mg KOH/g	165 min
Alcohol Insoluble Substance	%	0.03 max
Unsaponifiable Matter	%	5 max
Ash Content	%	0.03 max

## Applications:



### Cosmetic Industry

The residue left after the distillation of the volatile oil of oleoresin obtained from *Pinus palustris* and other species of Pinaceae. It is less and less used in cosmetics for the benefit of its esters.



### Adhesive Industry

Rosin, or more correctly rosin acid, is one of the oldest raw materials for the adhesives industry, either as such or converted to derivatives.



### Pulp and Paper Industry

Rosin is added to paper pulp to increase resistance to water and other liquids. Alum (short for aluminum sulfate) is added to help the rosin adhere to the paper fibers.

# Black Gum Rosin



Gum Rosin (GR) is product consisting essentially of a mixture of gum and resin usually obtained by making an incision in a plant and allowing the juice which exudes to solidify. GR also is a nonvolatile component of crude gum which is included largely in plants belonging to pine family (Pinaceae). It mainly consists of a various isomer technically called resin acids.

HS Code	: 3806.10.10
CAS No.	: 8050-09-7
Origin	: China
Packaging	: (230kg/80 drum) 22.54 MT (1 x 20 "FCL)

## Specifications:

Property	Unit	Value
Appearance	°C	Red black
Softening Point (R & B)	mg KOH/g	46.2
Acid Value	%	130 max
Unsaponifiable Matter	%	6 max
Ethanol Insolubles	%	6 max
Ash Content	%	0.05 max

## Applications:



### Rubber Industry

It is used for softening of rubber and to ease the dispersion of filler in rubber.



### Paint & Ink Industry

It is used in paints to provide smoothness to the coated surface. It is used in the manufacture of ink to act as a carrier of ink and to increase its adhesion to paper.



### Pulp and Paper Industry

It is used as a paper sizing agent to improve the quality and strength of paper.

# Double Distilled Turpentine

Double distilled turpentine oil (DDTO) is by cyclic and monocyclic terpenes like Pinene, Camphene, Carene, Menthadines. DDTO has colourless, pale yellow liquid pleasant lemon-like odour. Distilled Turpentine Oil is used in resins, lacquers, waxes, alkyd resins, rosins, printing inks, belt dressings & polishes as an excellent solvent In paints, varnishes, oils & enamels, as a thinner In preparation of mild fumigant, formulations, disinfectants & insecticides.



HS Code	: 3805.10.20
CAS No.	: 13466.78.9
Origin	: India/China
Packaging	: • 170 - 200kg Net Galvanized Iron drum • 20 - 25 MT Net ISO Tank 20 feet

## Specifications:

Property	Unit	Value
Appearance	-	Colorless
Delta-3-Carene	%	70 - 90
Limonene	%	15 max
Color (Gardner scale)	-	0.5 max
Density at 25°C	gm/ml	0.850 - 0.870
Refractive Index at 20°C	-	1.4710 - 1.4810
Solubility	-	Sparingly soluble
Boiling Point	°C	110 - 120

## Applications:



**Paint and Coating Industry**

Basically used for thinning oil based paints, for producing varnishes, and as a raw material for the chemical industry. Turpentine Oil is used as a solvent in varnishes, oil, alkyl based paints and removes the stains of tree sap, grease and tar.



**Flavors and Fragrance Agents**

Delta-3-Carene and Limonene content it produces a distinctive pine aroma which is suitable for use in the food/beverage, pharmaceutical and other aroma product industries.

Category: Gum Turpentine Derivative

# Alpha Pinene

Alpha( $\alpha$ )-pinene, also known as ex-turpentine, is one of the organic compound from terpene class. This compound is an alkene and it has a reactive four-membered ring. In nature, alpha pinene can be found in the oils of coniferous trees such as pine tree. Besides coniferous trees, it also can be found in essential oil of rosemary. This compound is clear and colorless with a characteristic odor of pine.



HS Code	: 3805.90.00
CAS No.	: 80-56-8
Origin	: Indonesia
Packaging	: • ISO Tank 20MT (20' FCL) • Drum HDPE 250kg

## Specifications:

Property	Unit	Value
Specific Gravity (25°C)	mg/L	0.850 - 0.865
Refractive Index (20°C)	-	1.464 - 1.468
Color	-	Clear
Purity $\alpha$	%	97 min
Purity $\beta$	%	90 - 97
Purity $\gamma$	%	85 - 90
Odor	%	$\alpha$ - Pinene specific
Solubility	%	Soluble in organic solvent

## Applications:



### Food Industry

It is used as a food additives and acts as a flavoring agent. Alpha pinene gives pine-like taste and odor. It is used to daily flavor of bergamot, bay leave and other edible flavor.



### Pharmaceutical Industry

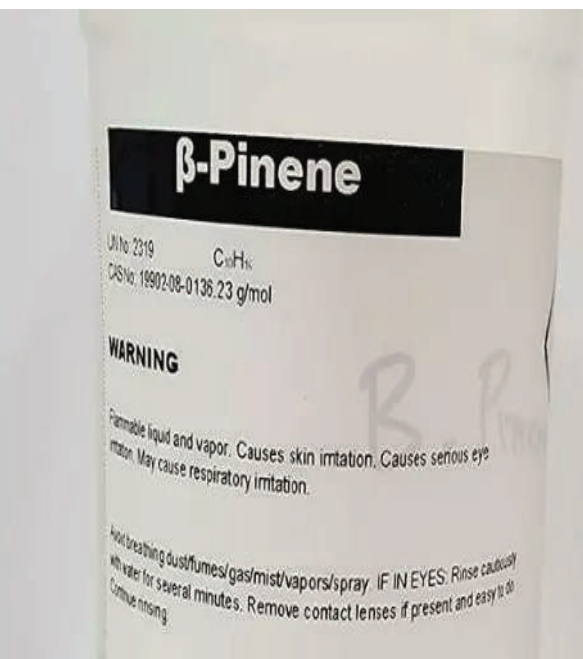
Alpha pinene is used as a bronchodilator for human and also have anti-inflammatory and antimicrobial properties and is used in the treatment of skin diseases such as eczema and other skin ailments.



### Chemical Intermediates

Alpha pinene is used as the starting material for the synthesis of terpene resin, synthetic plastics, synthetic lubricant and in aromatic chemicals such as camphene, etc

# Beta Pinene



Beta pinene, also known as Rosemarel, is an organic compound with the chemical formula  $C_{10}H_{16}$ . Monoterpene chemicals are well-known fragrances and have various aromas. Due to its high volatility and aroma produced from monoterpene, monoterpene is often used in perfumes, cosmetics, or food. Beta pinene, one of the monoterpenes, has a woody-pine like smell. The most common and significant industrial process of Beta Pinene is the fractional distillation of Turpentine oil.

HS Code	: 2902.19.10
CAS No.	: 127.91.3
Origin	: India
Packaging	: 150 - 190kg Galvanized drum or ISO Tank 20MT

## Specifications:

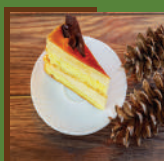
Property	Unit	Value
Appearance	-	Clear
Color	-	35 max
Specific Gravity	°C	0.860 - 0.870
Refractive Index	°C	1.4750 - 1.4820
Acid Value	mg KOH/g	0.5 max
Moisture	%	0.1 max
Beta Pinene	%	95 min

## Applications:



### Pharmaceutical Industry

Beta-pinene is used as a flavour excipient in medicine with limited concentration uses.



### Food & Beverages

Due to its woody and spicy aroma, beta-pinene can be used as a flavoring additive also as a preservative in food and beverage.



### Soap & Detergent

Geraniol is a popular floral note prepared from beta pinene. This geraniol and its derivate are used in soap and detergent industry to add fragrances. The most common rose fragrances are also an odor of geraniol.





Category: Gum Turpentine Derivative

# Alpha Terpeneol

Terpineol is usually a mixture of its four isomers, alpha-, beta-, gamma-terpineol and terpinen-4-ol. Alpha-terpineol is the major constituent. Sources of terpineol are found from a variety of sources such as cajuput oil, pine oil and petitgrain oil. Terpineol is a commonly used in the flavor and fragrance industry as an ingredient in cosmetics and perfumes because of its pleasant odor which resembles lilac.

HS Code : 2906.19.90  
CAS No. : 98-55-5  
Origin : India/China  
Packaging : • 170kg Net iron drum • 200kg Net HDPE drum  
• 1200kg Net IBC Tank • 20MT ISO Tank

## Specifications:

Property	Unit	Value
Alpha + Gamma Terpineol	%	82 min
Total Terpineol	%	96 - 98
Appearance	-	Clear colorless liquid
Color (Gardner Scale)	-	0.5 max
Density at 25°C	gm/ml	0.925 - 0.937
Refractive Index at 20°C	-	1.4810 - 1.4850
Acid Value	mg KOH/g	1 max

## Applications:



**Fragrance Industry**

Due to its pleasant odor similar to lilac, terpineol is commonly used in the manufacturing of soaps, perfumes, cosmetics, antiseptic agents and is considered one of the most frequently used fragrance compounds.



**Pharmaceutical Industry**

Alpha-terpineol possess a wide range of biological properties that attract a great interest in the medicinal field. Studies have found that alpha-terpineol possess antiulcer, antioxidant, as well as skin penetration enhancing activity.

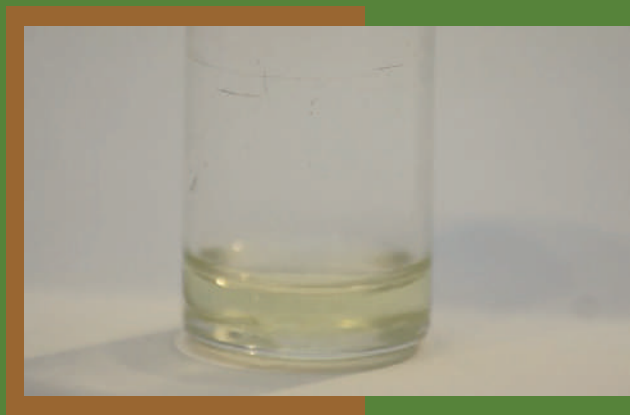


**Detergent & Soap Industry**

Terpinol is widely used in the manufacturing of soaps and detergent industry as the antiseptic agents and the fragrant compounds. 85% Terpineol has high purity can kill germs and is used as a disinfectant in cleaning formulas.

# Limonene

Limonene is a colorless liquid aliphatic hydrocarbon classified as a cyclic monoterpene, and is the major component in the oil of citrus fruit peels. The d-isomer, occurring more commonly in nature as the fragrance of oranges, is a flavoring agent in food manufacturing. The less common l-isomer has a piny, turpentine-like odor, and is found in the edible parts of such plants as caraway, dill, and bergamot orange plants.



HS Code	: 2902.19.90
CAS No.	: 5989-54-8
Origin	: India/China
Packaging	: • 170kg Net iron drum • 200kg Net HDPE drum • 1200kg Net IBC Tank • 20MT ISO Tank

## Specifications:

Property	Unit	Value
Density at 25°C	gm/ml	0.840 - 0.930
Refractive Index at 20°C	-	1.4500 - 1.5000
Soluble in Alcohol	-	Soluble in organic solvents
Calorific Value	cal/gm	9000 - 11000

## Applications:



### Food Aromatic Agent

It is the main volatile constituent of citrus peel oil, and the collected volatile portion of oil is usually referred to as d-limonene in the trade.



### Cosmetic Industry

Limonene is common as a dietary supplement and as a fragrance ingredient for cosmetics products.

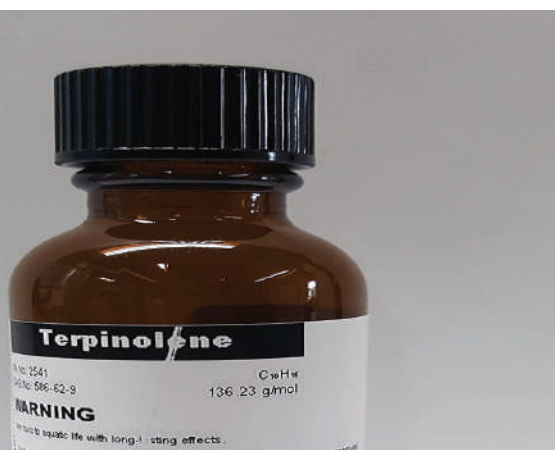


### Solvent Agent

Limonene is used as a solvent for cleaning purposes, such as adhesive remover, or the removal of oil from machine parts.

# Terpinolene

Terpinolene is a p-menthadiene with double bonds at positions 1 and 4(8). It has a role as a sedative, an insect repellent, a plant metabolite and a volatile oil component. Terpinolene is found in allspice. Terpinolene is a constituent of many essential oils e.g. Citrus, Mentha, Juniperus, Myristica species Parsnip oil (*Pastinaca sativa*) is a major source (40-70%). Terpinolene is a flavouring ingredient. Terpinolene has been shown to exhibit anti-fungal function.



HS Code	: 3805.90.10
CAS No.	: 5989-54-8
Origin	: India/China
Packaging	: • 170kg Net iron drum • 200kg Net HDPE drum • 1200kg Net IBC Tank • 20MT ISO Tank

## Specifications:

Property	Unit	Value
Limonene	%	35 - 55
Terpinolene	%	35 - 50
Color	-	1 max
Density at 25°C	gm/ml	0.845 - 0.864
Refractive Index at 20°C	-	1.4720 - 1.4850
Acid Value	mg KOH/g	1 max

## Applications:



### Pharmaceutical Industry

Terpinolene is known for its sedative properties, which is recommended when treating anxiety and insomnia. It is also mixed with lavender and lilac to treat some sleep disorders. A study found that terpinolene may be a strong antiproliferative agent for brain tumor cells.



### Food Industry

Terpinolene is used as a fragrance and food flavoring agent.



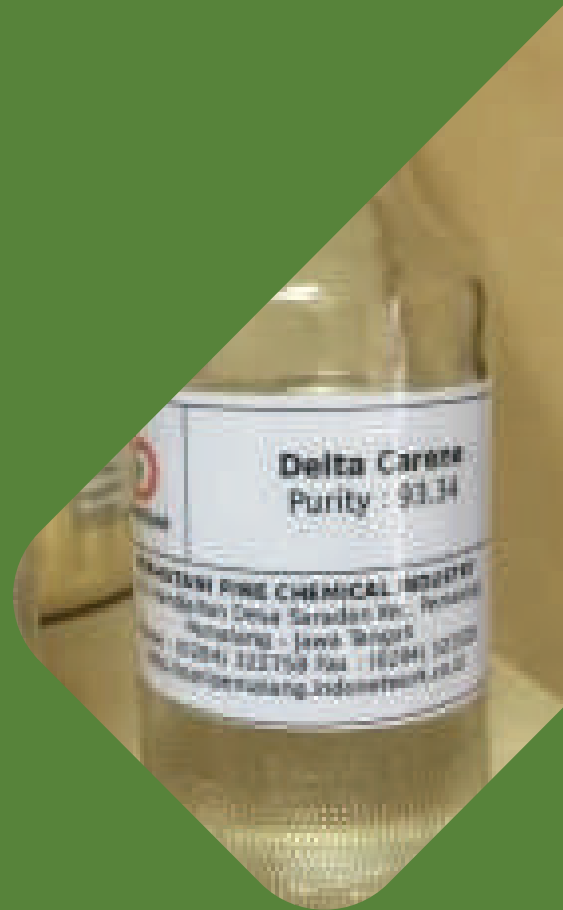
### Other Applications

Terpinolene is used as a solvent for resins and oils and a chemical intermediate. It has a role as a sedative, an insect repellent, a plant metabolite and a volatile oil component.

Category: Gum Turpentine Derivative

# Delta Carene

3-Carene is a bicyclic monoterpene consisting of fused cyclohexene and cyclopropane rings. It occurs as a constituent of turpentine, with a content as high as 42% depending on the source. Carene has a sweet and pungent odor, best described as a combination of fir needles, musky earth, and damp woodlands. A colorless liquid, it is not soluble in water, but miscible with fats and oils. It is chiral, occurring naturally both as the racemate and enantio-enriched forms.



HS Code : 3805.90.00  
CAS No. : 13466-78-9  
Origin : Indonesia, India, China  
Packaging : ISO Tank 20MT

## Specifications:

Property	Unit	Value
Specific Gravity (25°C)	mg/L	0.857 - 0.875
Refractive Index (20°C)	-	1.469 - 1.478
Color	-	Colorless
Purity $\alpha$	%	65 min
Purity $\beta$	%	55 - 65
Purity $\gamma$	%	55 max
Odor	%	Carene specific
Solubility	%	Soluble in organic solvent

## Applications:



### Pharmaceutical Industry

Carene has been studied for its potential anti-inflammatory properties, specifically in the reduction of edema. It also appears to increase the incorporation of calcium into bones (mineralization), improving overall bone health. These bone-strengthening properties make carene a potential treatment for osteoporosis.



### Food Industry

In the food industry terpene is used as an additive to achieve certain smells and flavors due to the intense smell it emanates.



### Other Applications

Carene is found in many essential oils used in aromatherapy. It is also used in cosmetics and perfumes.

Category: Gum Turpentine Derivative

# Terpinyl Acetate

Terpinyl acetate with molecular formula  $C_{12}H_{20}O_2$  is found in pine oil, cajeput oil, pine needle oil, cardamom oil and many other essential oils. It has a liquid appearance and has the smell of lemon or lavender.  $H_2SO_4$  is used as the catalyst agent with acetic anhydride for acetylation on terpineol to produce terpinyl acetate. It has a stable property and it is difficult to change colour. The other names of terpinyl acetate are terpineol, acetate; p-ment-1-en-8-yl acetate. It is used majorly as an aromatic.



HS Code : 2915.39.60  
CAS No. : 8007-35-0  
Origin : India  
Packaging : 180kg, 5kg, 900kg and ISO Tank (20MT)

## Specifications:

Property	Unit	Value
Appearance	-	Clear
Color	-	0.5 max
Density	gm/ml	5 max (at 25°C)
Refractive Index	-	1.4640 - 1.4680
Solubility	mg/L	23 (at 23°C)
Alpha Terpenyl Acetate	%	77 - 95
Gamma Terpinyl Acetate	%	0 - 17
Sum of BHC	%	95 - 100
Acid Value	-	1 max
Boiling Point	°C	231.9 at 101.3 kPa
Flash Point	°C	100 (≈212°F)

## Applications:



### Fragrance Industry

The benefits of stable property and difficult to change color. Terpinyl Acetate is widely used as aromatic, the contents can be up to 30%. Ventos has specialized in the distribution of raw materials for the flavour and fragrance industry.



### Food Industry

Terpinyl acetate is used as food flavouring in pears, plums, apricots, cherries, citrus and many other fruits of flavouring.



### Other Applications

It is widely used as fragrance ingredient and odor agent in soaps, shampoo, antiperspirants and lotions manufacturing, in air fresh-eners, in cleaning and furnishing care products, in laundry and dishwashing products.

Category: Gum Turpentine Derivative

# Dipentene

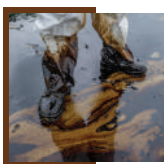
Dipentene (also called D-Limonene), is a terpene liquid found in various volatile oils such as cardamon, mace, nutmeg, turpentine oil. Dipentene is mainly composed of Limonene, beta-Phellandrene, Myrcene and other terpenes. Commercially, d-limonene is obtained from citrus fruits through the process of steam distillation and centrifugal separation. Limonene is relatively stable and can be distilled without decomposition, but at elevated temperatures, it cracks to form isoprene. The limonene extracted is commonly D-limonene, but at 300°C it racemizes to dipentene.

HS Code	: 2902.90.10
CAS No.	: 68956-56-9
Origin	: India
Packaging	: 170kg Galvanized drum or ISO Tank 20 MT

## Specifications:

Property	Unit	Value
Appearance	-	Colorless
Clarity	-	Clear
Odor	-	Pleasant, harsh, characteristics & terpene
Specific Gravity at 30°C	-	0.850 - 0.870
Distillation Range	C	170 - 220 (min. 10-15% at 170°C)
Refractive Index at 30°C	-	1.475 - 1.485
Total Terpene Hydrocarbon	%	93 min

## Applications:



**Oil Dispersant**

d-limonene (as content of dipentene) is definitely a preferred solvent when it comes to safety and the environment. As a naturally occurring solvent, it biodegrades quickly, is much less toxic than mineral spirits and the chlorinated solvents; and is non-reactive to metals.



**Pharmaceutical Industry**

In pharmaceuticals industry, dipentene is added to help medicinal ointments and creams penetrate the skin.



**Personal Care & Cosmetics**

Dipentene is used as a perfumery composition for soaps, personal care products and cosmetics.

# Pine Oil

Pine oil, essential oil consisting of a colourless to light amber liquid of characteristic odour obtained from pine trees, or a synthetic oil similar in aroma and other properties. Pine oil is used as a solvent for gums, resins, and other substances. Pitch-soaked wood of the pine tree, principally *Pinus palustris* and other certain species of the family Pinaceae, is subjected to steam distillation, solvent extraction followed by steam distillation, or alternatively, destructive distillation to obtain pine oil, which boils at 190 - 225°C (for Pine Oil 85%).



HS Code	: 3805.20.00
CAS No.	: 8002-09-3
Origin	: India, Indonesia, Vietnam
Packaging	: check Specification table

## Specifications:

Property	Unit	Value - Indonesia Origin	Value - India Origin 50%	Value - Vietnam Origin 50%	Value - Vietnam Origin 65%	Value - Vietnam Origin 85%
Specific Gravity at 25°C	mg/L	0.870 - 0.880	-	-	-	-
Refractive Index at 20°C	mg/L	1.465 - 1.475	-	-	-	-
Color	-	Colorless or pale yellow	-	Colorless to very light yellow		
Purity	%	40 min	50 - 51	-	-	-
Odor	-	Pine oil specific	-	-	-	-
Solubility	-	Soluble in organic solvent, insoluble in water	-	-	-	-
Specific Gravity at 200°C	°C	-	0.885 - 0.900	-	-	-
Distillation Range	V/V, °C	-	172 - 222	170 - 225	175 - 225	190 - 225
Distillation at 172°C	%	-	±5	-	-	-
Distillation at 222°C	%	-	±96	-	-	-
Refractive Index at 200°C	°C	-	1.475 - 1.485	-	-	-
Alcohol Content	%	-	-	50 min	65 min	85 min
Other Terpene	°C	-	-	50 max	35 max	15 max
Appearance	-	-	-	Clear liquid		
Water	%	-	-	1 max		
Specific Gravity at 20°C	%	-	-	0.890 min	0.900 min	0.920 min
Packaging	-	ISO Tank 20MT (20'FCL); Drum HDPE 250kg	185kg Net in drum	180kg Net in plastic drum		

## Applications:

### Pharmaceutical Industry



Pine oil commonly used to relief inflammation and pain arising from various health issues such as rheumatism, arthritis, gout, muscular aches. It helps reduce skin problems and can help in cases of bronchitis, scabies and lice and excessive perspiration.

### Fragrance Industry



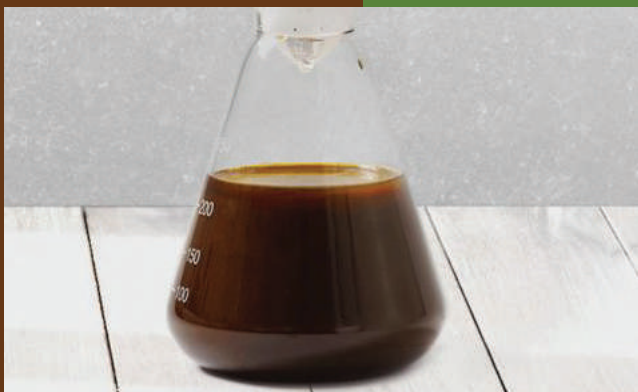
Pine oil is used as fragrances in consumer products such as perfumes, shower gels, shampoos, soaps, candles and laundry detergents. Herbicide Pine oil is an effective herbicide that is able to modify the waxy cuticle of plants, resulting in desiccation.



Category: Tall Oil Derivative

# Crude Tall Oil (CTO)

Crude Tall Oil (CTO) is a byproduct of pine wood pulping (Kraft process) used by many paper mills. The term “tall” originated from the Swedish term for pine trees. The pulpwood is delivered to pulp mills and is chipped and boiled with an alkali solution to produce black liquor and pulp. Tall oil is the third largest chemical by-product in a kraft mill after lignin and hemicellulose; the yield of crude tall oil from the process is in the range of 30–50 kg / ton pulp.



HS Code : 3803.00.10  
CAS No. : 8002-26-4  
Origin : Finland  
Packaging : • 250kg Net Barrel drum  
• 20 MT Net 20ft ISO Tank

## Specifications:

Property	Unit	Value
Appearance	-	Dark brown color
Acid Number	mgKOH	145 min
Mass Part of Resin Acids	%	40 min
Mass Part of Unsaponifiable Matter	%	13 max
Mass Part of Lignin & Mechanical Impurities	%	1 max
Mass Fraction of Water	%	1 max
Mass Part of Fatty & Resin Acids and Neutral Substances	%	Not determined

## Applications:

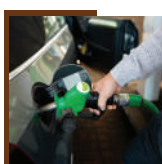
### Mining Industry

Crude tall oil is used to produce metal working fluids for metal working operations, separating fluids for the concrete products industry and as flotation agent for the mining industry.



### Biofuel Industry

Crude tall oil can be refined to produce crude tall diesel which is a renewable diesel and a biofuel which can be used in passenger car.



### Soap & Detergent

Crude tall oil and its salts clean skin and hair by assisting water in combining with oil and dirt, allowing it to be rinsed away.



# Distilled Tall Oil (DTO)

Distilled Tall Oil is a mixture of fatty acids, rosin acids and other components. It is obtained from the distillation of Tall Oil, which is a by-product of the Kraft process of pulping coniferous trees for wood pulp manufacture. Distilled Tall Oil is derived from the fractional distillation of Crude Tall Oil under high vacuum. Distilled tall oil appears as a mixture of unsaturated acids: linolic, linolenic and others, as well as of resin acids: abietic, dihydroabietic, palustric and others.

HS Code	: 3803.00.00
CAS No.	: 8002-26-4
Origin	: Firland
Packaging	: ISO Tank bulk (20 MT)

## Specifications:

Property	Unit	Value
Appearance	-	Consideration
Color (Gardner Scale)	-	7 - 12
Acid Value	mgKOH	179 - 191
Saponification Number	mgKOH	186 - 195
Mass Part of Resin Acids	%	6 - 20
Mass Fraction of Water	%	Traces
Mass Part of Unsaponifiable Matter	%	3 - 6

## Applications:



### Metal Industry

Distilled tall oil is used in metalworking fluids which cool and/or lubricate metal workpieces that may reach high temperatures due to friction.



### Paint Industry

DTO is used in alkyd resins which are used in making protective coatings with good weathering properties and are important ingredients in many synthetic paints.



### Other Applications

DTO also used to aid the drilling of boreholes into the earth for oil extraction and as a component of soaps and cleaners.

# Crude Sulphate Turpentine (CST)



Crude sulfate turpentine (also known as sulfate wood turpentine) is a derivative product of turpentine acquired via the distillation of resin occurring in live trees, particularly pines. It is a flammable fluid which is insoluble in water but dissolves in certain solvents. Crude sulfate turpentine is obtained as a byproduct of the Kraft process with the help of substrates and catalysts. Crude sulfate turpentine comprises terpene hydrocarbons and miscellaneous sulfur compounds.

HS Code	: 3805.00.00
CAS No.	: 8006.64.2
Origin	: Finland
Packaging	: ISO Tank bulk (20 MT)

## Specifications:

Property	Unit	Value
Appearance	-	Liquid of light yellow up
Density (at 20°C)	g/cm	0.855 - 0.870
<b>Temperature Limits of Distillation (at 760mmHg)</b>		
Initial Boiling	°C	149 min
Volume Part of Distilled Fraction up to 170°C	%	80 min
Acid Value	mg KOH	0.5 max
Mass Part of Evaporation Residue	%	0.6 max
Mass Fraction of Water	%	Absence

## Applications:



### Varnish Industry

CST can be used as protective coating or metal polish, if mixed with linseed oil and beeswax.



### Paint Industry

It is used as a solvent in many industries. Due to its high evaporation rate when it is mixed with paint it facilitates faster drying of the paint. CST is also used to remove paint from skin. It is also used to clean paint brush.



### Food Industry

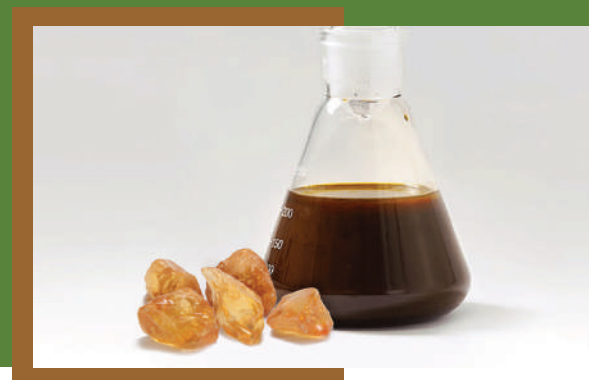
It is also used as a flavoring agent in some medicines and food manufacturing, as well as as a cleaning solvent. Terpinene, especially alpha-terpinene, is a chemical flavoring agent used in the food industries.

Category: Tall Oil Derivative

# Tall Oil Rosin (TOR)

Tall oil rosin is a product of crude tall oil vacuum distillation. Tall oil rosin appears as a mixture of resin acids: abietic, ihydroabietic, palustric, neoabietic, isopimaric, and others. Aside from resin acids the tall oil rosin contains up to 6% of unsaponifiable matters. Tall oil rosin is made up of a number of different diterpenoid (resin) acids, diterpene alcohols, aldehydes and hydrocarbons. 16. The resin acids comprise nearly 85% of the tall oil rosin.

HS Code : 3806.90.90  
CAS No. : 8052-10-6  
Origin : Firland  
Packaging : • 200kg Net Zink drum  
• 1200kg Net big bag



## Specifications:

Property	Unit	Value
Color	-	X, WW, WG
Ash Content	%	0.03 max
Mechanical Agents	%	0.03 max
Softening Point	-	60 min
Acid Value	mg KOH/g	165 min
Unsaponifiables	%	5 max

## Applications:



### Alkyd Resin Coating

Tall oil rosin is used to increasing the strength and gloss of Alkyd Resin coatings in production.



### Rubber Industry

Tall oil rosin (TOR) is majorly used in the synthetic rubber production process.



### Chemical Intermediates

In the chemical industry, TOR is used for obtaining glycerol and Pentaerythritol ester. It also used in disproportionation reaction of bulk rosin.



### Electronic Welding Industry

Tall oil rosin (TOR) is used in electronic welding technology.

# Tall Oil Fatty Acid (TOFA)

Tall oil fatty acid (TOFA) is derived from purified tall oil, which is a by-product of the Kraft process. Tall oil fatty acid is a low-cost and vegetarian lifestyle-friendly used to produce soaps and lubricants. It is also capable of going through chemical reactions to be used as a component in adhesives, varnishes, curing agents, and drilling oils.



HS Code : 3823.13.00  
 CAS No. : 61790-12-3  
 Origin : Finland  
 Packaging : ISO Tank 20 MT

## Specifications:

Property	Unit	Value - TOFA 1	Value - TOFA 2
Acid Value	-	193 min	193 min
Cloud Point	°C	-3 max	-2 max
Color (Gardner Scale)	-	5 max	5 max
Free Rosin Acids	%	2.1 max	2.1 max
Unsaponifiables	%	2 max	2 max

## Applications:



### Alkyd Resins

An increase in the functionality of the polyol that is used in the alkyd resin synthesis was found to increase the reactivity of the polyol towards the diacid compared with the TOFA, which causes the formation of more branched and higher molar mass alkyd resin structures.



### Leather Industry

Fatliquors, oils applied as aqueous emulsions to leather while it is still wet from tanning, are available in a variety of ionic forms. Fatliquors soften leather by preventing the formation of adhesions between fibers during drying.



### Soap & Detergent Industry

Tall Oil Fatty Acid is a low-cost and vegetarian lifestyle-friendly alternative to tallow fatty acids for production of soaps. Tall Oil Acid and its salts clean skin and hair by helping water to mix with oil and dirt so that they can be rinsed away.

Category: Tall Oil Derivative

# Tall Oil Pitch

Tall Oil Pitch (Resin) is a viscous black liquid obtained from Tall Oil. Tall oil is produced from coniferous trees and has a variety of uses. It is obtained as a co-product of the Kraft wood pulping process used by paper mills and it is the third largest chemical by-product of Kraft mill. Tall Oil Pitch contains primarily high-boiling esters of fatty acids and rosin. It may also contain neutral materials, free fatty acids and rosin acids.



HS Code : 3803.00.00  
CAS No. : 8016-81-7  
Origin : Finland  
Packaging : • 250kg Net Barrel drum  
              • 20kg Net Flexi bag

## Specifications:

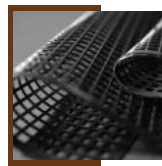
Property	Unit	Value
Acid Value	mgKOH	20 min
Softening Point	°C	19 min

## Applications:



**Adhesive Industry**

Tall oil pitch is commonly used as an emulsifier of asphalt and as a binder of cement and adhesive. It is also used to enhance the adhesion of rubber to metal cords, applied to surfaces to inhibit corrosion, and also used in the drilling mud for drilling operations.



**Other Applications**

It can also be used as a biofuel to provide clean renewable energy, as a softening agent in rubber goods or flotation agent for the mining industry.



Category: Gum Rosin Derivative

# Maleated Rosin

Maleated rosin is produced by addition reaction between rosin and maleic anhydride and vacuum treatment. Maleated rosin is soluble in ester, alcohol and petroleum solvent, can form emulsion by dispersing in water, with high softening point and good water stability. Maleated rosin is used in many industries such as paper-making, adhesives, paint and inks.

HS Code	: 3806.90.00
CAS No.	: 68038-41-5
Origin	: China
Packaging	: • 225kg Net each drum • 25kg bag PP Woven

## Specifications:

Property	Unit	Value
Appearance	-	Transparent solid
Color	-	Less than L darkest
Softening Point (R&B)	°C	≥ 94
Acid Value	mg/g	≥ 200

## Applications:



**Paint & Inks Industry**

Maleated resins help prevent the particles from reassociating by increasing both the electrostatic and steric repulsion between pigment particles.



**Adhesives Industry**

Maleated rosin provides good anti-oxidation property and durability. It is suitable for use in adhesives.



**Paper Industry**

Rosin compounds can be used as sizing agents in the paper industry.

# Glycerol Ester Rosin (Light)



Glycerol Rosin esters are formed by the reaction of the carboxylic acid group of rosin acid with glycerol. Glycerol rosin esters differ in property and application depending on the source of rosin acid. There are three sources from which rosin acids can be derived - gum, wood, and tall oil rosin. Glycerol ester of gum rosin is a hard, yellow to pale amber-colored solid which is insoluble in water but soluble in acetone.

HS Code	: 3806.90.00
CAS No.	: 68038-41-5
Origin	: China
Packaging	: • 225kg Net each drum • 25kg bag PP Woven

## Specifications:

Property	Unit	Value
Solubility (with toluene 1:1)	-	Clear
Color	-	1 - 2
Softening Point (R&B)	°C	9 max
Acid Value	mg/g	85 min

## Applications:



### Food Industry

The main function of glycerol rosin ester in food and beverages is to keep oils suspended or mixed evenly in water. It acts as a thickening agent in ice creams and chewing gum. It is even used as an ingredient to provide a pleasant and authentic fruit flavor in water-based beverages.



### Cosmetic Industry

Glycerol rosin ester is used in the cosmetic industry as an emulsifier, stabilizer, and thickener.



### Paint & Coating Industry

Glycerol Rosin Esters is used in product lacquer furniture, varnish, hammer finish, metallic paint, and ink. It is used as a pressure-sensitive adhesive in the paint and coating industry.



# Fumaric Resin Derivative

Fumaric Resin is a resin derived from rosin, modified with fumaric acid and partially esterified with glycerin. It is soluble in ethanol, aromatic solvents, glycols, aqueous ammonia system soluble in water. It can be applied in the manufacture of: flexographic inks, paper inks, printing inks, varnishes, synthetic enamel, steam set and road marking inks.



HS Code	: 3806.90.90
CAS No.	: 110-17-8
Origin	: China/Brazil
Packaging	: • 225kg Net each drum • 25kg bag PP Woven

## Specifications:

Property	Unit	Value
Appearance	-	Transparent solid
Color	-	Less than K darkest
Softening Point (R&B)	°C	105 ± 3
Acid Value	mg/g	210 min

## Applications:



### Paper Industry

Fumaric resin widely used as the fortified sizing agent for paper-making.



### Paint & Inks Industry

A synthetic resin used in printing inks derived from the chemical reaction of fumaric acid and rosin.

# Pentaerythritol Ester of Modified Rosin

Maleic Modified Rosin Resin, Pentaerythritol ester of maleic rosin or Rosin Modified Maleic Resins is a light yellow transparent solid, which is synthesized by the addition reaction between gum rosin and maleic anhydride, then through the esterification with pentaerythritol. It is totally soluble in aromatics and chlorinated solvents but insoluble in alcohols and ketones.



HS Code	: 3806.10.10
CAS No.	: 8050-26-8
Origin	: China/Vietnam/Brazil
Packaging	: • 225kg Net each drum • 25kg bag PP Woven

## Specifications:

Code	Softening Point	Acid Value	Color Level
TR-P95A	90 - 98 °C	8 - 16 mg KOH/g	3 - 4
TR-P100	97 - 105 °C	20 - 30 mg KOH/g	3 - 4
TR-P100A	98 - 103 °C	8 - 16 mg KOH/g	3 - 4
TR-P105NP	100 - 108 °C	20 - 30 mg KOH/g	3 - 4
TR-P105	101 - 109 °C	20 - 30 mg KOH/g	3 - 4
TR-P105A	101 - 109 °C	8 - 16 mg KOH/g	3 - 4
TR-P110	105 - 114 °C	20 - 30 mg KOH/g	3 - 4
TR-P110A	105 - 114 °C	8 - 16 mg KOH/g	3 - 4
TR-P120	115 - 124 °C	15 - 25 mg KOH/g	3 - 4+

## Applications:



### Pigment Industry

Pentaerythritol ester of maleic rosin is used as grinding resin for blue pigment.



### Ink Industry

Pentaerythritol ester of maleic rosin is used in publication gravure ink, circuit board ink



### Adhesive Industry

Pentaerythritol ester of modified rosin can be used as adhesives.



### Floor Wax

Pentaerythritol ester of modified rosin also can be used as floor wax.

# Acrylic Acid Modified Rosin



Acrylic Acid Modified Rosin is a derivative from additive reaction of gum rosin with acrylic acid. It comes with chemical formula of C<sub>3</sub>-H<sub>4</sub>-O<sub>2</sub>. Acrylic Acid Modified Rosin majorly used in adhesive industry, electronic solder flux, etc.

HS Code	: 3806.90.00
CAS No.	: 8050-09-7
Origin	: China
Packaging	: • 225kg Net each drum • 25kg bag PP Woven

## Specifications:

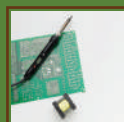
Property	Unit	TRP-100	TRP-120
Appearance	-	Yellow transparent solid	Yellow transparent solid
Solubility	-	Clear	Clear
Color (Fe-Co Scale)	-	≤ 2	≤ 2
Acid Value	mg/g	205 (±5)	240 (±5)
Softening Point (R&B)	°C	100 (±3)	120 (±3)

## Applications:



Adhesive Industry

It can be used directly as an epoxy curing agent and material ratio optimized by appropriate control catalysts and reaction time, the reaction becomes smooth, relaxed, easy to control, resulting in light color and high softening point.



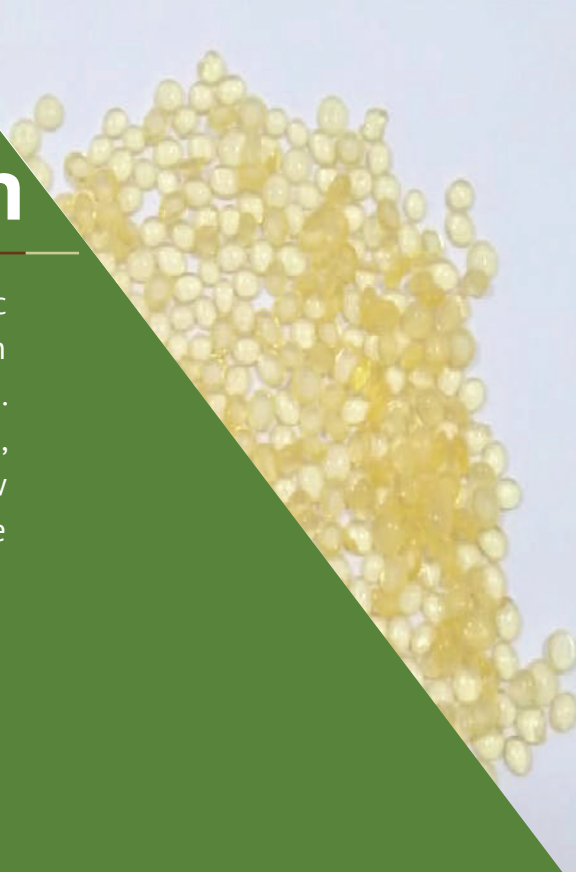
Electronic Solder

The lead-tin solder commonly used in electronics has 1 to 2% rosin by weight as a flux core, helping the molten metal flow and making a better connection by reducing the refractory solid oxide layer formed at the surface back to metal.

Category: Gum Rosin Derivative

# Glycerol Ester of Rosin

Glycerol Rosin esters are formed by the reaction of the carboxylic acid group of rosin acid with glycerol. Glycerol rosin esters differ in property and application depending on the source of rosin acid. There are three sources from which rosin acids can be derived - gum, wood, and tall oil rosin. Glycerol ester of gum rosin is a hard, yellow to pale amber-colored solid which is insoluble in water but soluble in acetone.



HS Code : 3806.90.00  
CAS No. : 8050-26-8  
Origin : Indonesia  
Packaging : 25kg Net each (paper plastic compound)

## Specifications:

Property	Unit	Value
Appearance	-	Yellow transparent
Acid Value	KOH mg/g	≤ 10
Color, Gardner	50% in Toluene	8 max
Softening Value	°C	78 min

## Applications:



### Food Industry

The main function of glycerol rosin ester in food and beverages is to keep oils suspended or mixed evenly in water. It acts as a thickening agent in ice creams and chewing gum. It is even used as an ingredient to provide a pleasant and authentic fruit flavor in water-based beverages.



### Cosmetic Industry

Glycerol rosin ester is used in the cosmetic industry as an emulsifier, stabilizer, and thickener.



### Paint & Coating Industry

Glycerol Rosin Esters is used in product lacquer furniture, varnish, hammer finish, metallic paint, and ink. It is used as a pressure-sensitive adhesive in the paint and coating industry.

# Modified Maleic Acid Resin

Maleic Acid Resin is a type of light yellow and transparent flake solid that is made of refined gum rosin and maleic anhydride, and is esterified by pentaerythritol. Soluble in coal tar, ester, plant oil, turpentine, insoluble in alcohol. It has features of light color, color retention, has well solubility with nitrocotton, can improve the hardness and gloss of paint surface, not only that, Maleic Acid Resin has excellent performance at water-resistance.

HS Code : 2811.11.00  
 CAS No. : 7664-39-3  
 Origin : India/China  
 Packaging : • 38kg Net HDPE Jarrycan  
 • 230kg Net HDPE drum  
 • 20MT ISO Tank, 20ft

## Specifications - Grade A:

Property	Unit	Value
Purity HF	%	15 - 70
H <sub>2</sub> SO <sub>4</sub>	%	1.50 max
H <sub>2</sub> SiF <sub>6</sub>	%	1.50 max
Appearance	-	Clear colorless liquid
Density at 20°C	g/cc	1.23 (for 70% conc)

## Specifications - Grade B:

Property	Unit	Value
Purity HF	%	99.80 min
Moisture	%	0.05 max
H <sub>2</sub> SO <sub>4</sub>	%	0.05 max
H <sub>2</sub> SiF <sub>6</sub>	%	0.05 max
SO <sub>2</sub>	%	0.005 max
Appearance	-	Colorless gaseous liquid
Density at 20°C	g/cc	0.97

## Applications:



### Adhesive Industry

Maleic Acid Resin can be used for EVA, SBS, SIS hot-melt adhesive & pressure-sensitive adhesive.



### Rubber Industry

Adhesive for SBR rubber, natural rubber, SBR rubber & acryloid.



### Paint Industry

Maleic Acid Resin can also be used phenolic paint & road marking paint.

# Glycerol Hydrogenated Ester Rosin

Glycerol Ester Of Hydrogenated Rosin also named Glyceryl Hydrogenated Rosinate or Hydrogenated Rosin Glycerol Ester, it's made from well refined and hydrogenated gum rosin and treated by glycerol esterification and catalyst. It's well soluble in toluene, acetic ether, acetone, dichloromethane, solvent gasoline etc. Insoluble in water and alcohol. It can be used as tackifier material for various types of adhesive, and comes with anti-oxidation and color retention to be thermoplastic resin for coating.



HS Code : 3806.90.00  
 CAS No. : 65997-06-0  
 Origin : Indonesia/China  
 Packaging : 25 Carton PP Woven

## Specifications:

Property	Unit	HXB	HXA	HX
Appearance	-	4.0	8.0	12.0
Color	-	0.7	1.0	1.6
Acid Value	mg KOH/g	166	166	166
Softening Point	°C	76	76	76
Alcohol Insoluble Substance	%	0.02	0.02	0.02
Unsaponifiable Matter	%	7.0	7.0	7.0
Abietic Acid	%	1.0	1.0	1.0
Dehydroabietic Acid	%	8.0	8.0	8.0
Tetrahydro Resin Acid	%	30	30	30

## Applications:



### Food Industry

The product can be used as emulsification stabilizer for drinks, and as chewing ingredient for chewing gum & bubble gum.



### Adhesive Industry

It can be used for hot melt adhesive, acrylic adhesive manufacturing etc.



### Other Applications

In other industry it can be used as tackifier of adhesive for cigarette filter.

# Pine Tar Oil

Pine tar is a form of wood tar produced by the high temperature carbonization of pine wood in anoxic conditions (dry distillation or destructive distillation). Pine tar consists primarily of aromatic hydrocarbons, tar acids, and tar bases. Components of tar vary according to the pyrolytic process (e.g. method, duration, temperature) and origin of the wood (e.g. age of pine trees, type of soil, and moisture conditions during tree growth).



HS Code : 3807.00.00  
 CAS No. : 8011-48-1  
 Origin : India  
 Packaging : • 200kg Net mild Steel drum  
           • 1200kg Net IBC Tank

## Specifications:

Property	Unit	Value
Acid Value	mg KOH/g	45±15
Specific Gravity at 30°C	-	0.960 - 1
Moisture Content	%	1 max
Ash Content	%	1 max
Viscosity at 100°F (B4 Cup) in seconds	%	150 - 250

## Applications:



### Rubber Industry

Pine tar is used in compounding of natural and synthetic rubber and reclaiming operations as excellent tackifier, softener, and plasticizer.



### Belting & Conveyor Industry

Pine tar is used in belting industry, V-belts, and conveyor industry.



### Wood Preservative

Pine tar has a long history as a wood preservative, as a wood sealant for maritime use, in roofing construction and maintenance.



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