



FRP COMPANY

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EMERGENCY PHONE NO.  
912/367-3616

97-675  
#326  
91-158  
Page 1 of 4  
**MATERIAL SAFETY DATA SHEET**

FRP PRODUCT NAME  
TURPENTINE

**REACTIVITY** 0

**PRODUCT IDENTIFICATION**

SYNONYMS: Oil of Turpentine, Gum Spirits of Turpentine  
DESCRIPTION: A volatile mixture of hydrocarbon isomers (C<sub>10</sub>H<sub>16</sub>) obtained from pine gu  
CAS NO.: 9005-90-7  
DOT PROPER SHIPPING NAME: Turpentine  
DOT HAZARD CLASS/ID NO.: Flammable Liquid/UN1299  
DOT LABEL: Flammable liquid  
HAZARDOUS SUBSTANCE/RQ: Ignitable Waste/100 lb. (45.4 kg)

**WARNING STATEMENTS**

FLAMMABLE LIQUID AND VAPORS  
HARMFUL IF INHALED  
IRRITATING TO SKIN AND EYES  
PENETRATES SKIN

**PRECAUTIONARY MEASURES**

KEEP AWAY FROM OPEN FLAME.  
AVOID BREATHING VAPORS.  
AVOID CONTACT WITH SKIN. USE RUBBER GLOVES.  
DO NOT GET IN EYES. USE CHEMICAL SPLASH GOGGLES.

**EMERGENCY AND FIRST AID PROCEDURES**

EYE CONTACT: Promptly flush eyes with lots of running water for 15 minutes. Get medical attention promptly.  
SKIN CONTACT: Wash exposed areas with warm water and soap. Remove contaminated clothing promptly (and launder before rinse). Get medical attention if irritation persists.  
INHALATION: Remove victim to fresh air. Get medical attention if irritation persist or for excessive exposures.  
INGESTION: GET MEDICAL HELP PROMPTLY! Stomach pumping and lavage may be required. Give edible oil or white mineral oil to drink. Do not induce vomiting. Aspiration a hazard if vomiting occurs.  
MASSIVE EXPOSURE: Attention should be directed towards kidney function.

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# MATERIAL SAFETY DATA

2 #326  
Page 2

## OCCUPATIONAL CONTROL PROCEDURES

**EYE PROTECTION:** Wear chemical splash goggles. Provide eye bath.

**SKIN PROTECTION:** Wear impervious gloves to minimize skin contact. Provide safety shower in area of use.

**RESPIRATORY PROTECTION:** For high exposures, use NIOSH approved air line or self contained respirators. A full face mask is needed to prevent eye irritation from vapors. NIOSH approved organic-vapor respirator may be used for low exposure levels.

**VENTILATION:** Good enclosure and local exhaust ventilation should be used to maintain air concentrations below the TLV.

**AIRBORNE EXPOSURE LIMITS:**

Ingredient - Turpentine [8006-64-2] - wt. % 100	
OSHA PEL:	100 ppm (560 mg/m <sup>3</sup> )
ACGIH TLV/TWA:	100 ppm (560 mg/m <sup>3</sup> )
TLV/STEL	150 ppm (840 mg/m <sup>3</sup> )

## FIRE PROTECTION INFORMATION

**FLASH POINT:** 91°F (T.C.C.)

**AUTO IGNITION TEMPERATURE:** 476°F

**FLAMMABILITY OF LOWER LIMIT (LEL) IN AIR:** 0.8% by volume

**EXTINGUISHING MEDIA:** Carbon Dioxide, dry chemical, or foam. Water may be ineffective.

**SPECIAL PROCEDURES:** Use water spray to cool fire exposed containers. When heated material is a moderate fire and explosion hazard. Emits acrid fumes on heating. Firefighters and others exposed to products of combustion should wear self contained breathing apparatus and full firefighting protective clothing. Dike area to prevent runoff.

**OSHA CLASS IC Flammable Liquid**

## REACTIVITY DATA

**MATERIALS TO AVOID:** Acids or acidic materials and strong oxidizing agents.

**HAZARDOUS POLYMERIZATION:** May occur from contamination with acids.

**CONDITIONS TO AVOID:** Reasonably stable when stored in a well ventilated, cool place in suitable containers sealed to exclude air. It can undergo autooxidation in air and generate heat which can build up in a confined space, causing spontaneous combustion.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Carbon monoxide and/or Carbon dioxide



# MATERIAL SAFETY DATA

Page 3 of 4

#326

## HEALTH EFFECTS SUMMARY

**SKIN CONTACT:** Can cause dermatitis or chemical burns. It can penetrate the skin to product systemic effects.

**EYE CONTACT:** Is irritating and damaging. It can cause conjunctivitis or cornea burns. Vapors can irritate the eyes at 175 ppm.

**INHALATION:** Of vapors or mist is irritating and can product headaches, dizziness, vertigo, chest pain, bronchitis, pulmonary edema, cyanosis narcosis, accelerated pulse.

**INGESTION:** Can produce nausea, serious illness or even death. (Mean, lethal dose, adult, 4 - 6 oz.)

**CHRONIC EXPOSURE:** May cause predisposition to pneumonia and chronic nephritis. Chronic exposure can produce allergenic sensitization.

**TOXICOLOGY:**  
 $\alpha$  and  $\beta$ -Pinene: Acute oral (rat) LD<sub>50</sub>= 3700 mg/kg to >5000 mg/kg  
 $\alpha$ -Pinene: Acute dermal (rabbit) LD<sub>50</sub>= >5000 mg/kg  
Turpentine: Oral (human) LDLo= 500 mg/kg  
Inhalation (human) LCLo= 175ppm (irritant effects)

## PHYSICAL DATA

**APPEARANCE AND ODOR:** Clear, colorless liquid with characteristic pungent odor (pinene). Threshold of perception is below 75 ppm.

**BOILING POINT:** 311°-338°F

**VAPOR PRESSURE:** 4 mm Hg @ 20°C

**SPECIFIC GRAVITY (H<sub>2</sub>O=1):** 0.863

**VAPOR DENSITY (Air=1):** 4.84

**% VOLATILE (by Vol.):** +99%

**SATURATION IN AIR (by Vol.):** 0.5% @ 20°C and 760 mm Hg

**REFRACTIVE INDEX:** 1.473 @ 20°C

**SOLUBILITY IN WATER:** Essentially insoluble; 0.023% by weight (20° - 25°C)

**TYPICAL COMPOSITION:**

Alpha-Pinene [080568]:	60 - 65%
Beta-Pinene [127913]:	25 - 35%
Other-Terpenes:	5 - 8%

These physical data are typical values based on material tested and published references. Values may vary from sample to sample. Typical values should not be construed as a quaranteed analysis of any specific lot or as specifications for the product.



# MATERIAL SAFETY DATA

326

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## SPILL, LEAK AND DISPOSAL INFORMATION

**PROCEDURE:** Provide adequate explosion proof ventilation to remove fumes from spill area. Where exposure level is not known, wear NIOSH approved positive pressure self-contained respirator. Personnel should use protection against contact with liquids as well as against breathing vapors. Pick up with absorbent material and place in a waste disposal container. Flush area with water.

**DISPOSAL:** Burning is recommended for waste disposal using an approved incinerator. Disposal should be in accordance with all applicable local, state, and federal regulations.

## ADDITIONAL COMMENTS

Store in a well ventilated cool, dry place away from sources of heat and ignition.

NO SMOKING in areas of storage or use.

Use of bonding and grounding of containers for transfers is recommended to avoid ignition from static sparks.

Emptied container retains vapor and product residue.

Possibility of teratogenic effects exists for pregnant women (AIHA Journal, 1976, 423-26).

**DATE:** JULY 20, 1985

**SUPERSEDES:**

**MSDS No.:** \_\_\_\_\_

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