



An ISO 9001:2000  
Certified Company

Product Information (203) 740-3471 / Emergency Assistance CHEMTREC 1-800-424-9300  
or 202-483-7616

## MATERIAL SAFETY DATA SHEETS

Part Number/Trade Name: Tetrahydrofuran, UNSTABILIZED, Glass Distilled, Trace Grade  
This MSDS is valid for all grades and catalog numbers for unstabilized Tetrahydrofuran starting with catalog numbers 346000DIS

**DANGER – THIS PRODUCT WILL FORM EXPLOSIVE PEROXIDES IF NOT HANDLED ACCORDING TO CONTROLLED CONDITIONS AND UNDER THE PRESENCE OF AN INERT GAS!!!!**

### General Information

Company's Name: PHARMCO PRODUCTS, INC.	Safety Data Review Date: 8/23/99
Company's Street: 58 VALE RD.	Preparer's Company: PHARMCO PRODUCTS, INC.
Company's City: BROOKFIELD	Preparer's St Or P. O. Box: 58 VALE RD.
Company's State: CT	Preparer's City: BROOKFIELD
Company's Zip Code: 06804	Preparer's State: CT
Company's Emerg Ph #: (203) 740-3471	Preparer's Zip Code: 06804
Company's Info Ph #: (203) 740-3471	
Date MSDS Revised: Nishant-8/23/99	

### Ingredients/Identity Information

Ingredient: TETRAHYDROFURAN (SARA III)	OSHA PEL: 200 PPM/250 STEL
Ingredient Sequence Number: 01	ACGIH TLV: 200 PPM/250STEL;9293
Percent: 100	Other Recommended Limit: NONE
NIOSH (RTECS) Number: LU5950000	RECOMMENDED
CAS Number: 109-99-9	

### Physical/Chemical Characteristics

Appearance And Odor: LIQUID,MOBILE;COLORLESS;ETHER-LIKE ODOR	Specific Gravity: 0.88
Boiling Point: 151F,66C	Evaporation Rate And Ref: 14.5
Vapor Pressure (MM Hg/70 F): 114MM 259F	Solubility In Water: MISCIBLE
Vapor Density (Air=1): 2.5	Percent Volatiles By Volume: 100
	Autoignition Temperature: 610F

### Fire and Explosion Hazard Data

Flash Point: 6F,-14C  
Flash Point Method: COC  
Lower Explosive Limit: 1.8  
Upper Explosive Limit: 11.8  
Extinguishing Media: DRY CHEMICAL,FOAM OR CARBON DIOXIDE.WATER SPRAY CAN BE USED TO COOL FIRE EXPOSED CONTAINERS.  
Special Fire Fighting Proc: USE FULL PROTECTIVE CLOTHING AND A SCBA IN POSITIVE PRESSURE MODE.USE WATER SPRAY TO COOL FIRE EXPOSED CONTAINERS.  
Unusual Fire And Expl Hazrds: EXPLOSIVE ORGANIC PEROXIDES FORM FROM AGING

OR LIGHT.VAPOR CAN TRAVEL DISTANCES ALONG THE FLOOR AND FLASH BACK TO THE IGNITION SOURCE.

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Reactivity Data

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Stability: YES

Cond To Avoid (Stability): LIGHT.KEEP CONTAINERS CLOSED;CONCENTRATION OF PEROXIDES (BY DISTILLATION,EVAPORATION) CREATES EXPLOSION HAZARD.

Materials To Avoid: OXYGEN.

Hazardous Decomp Products: IRRITATING AND TOXIC FUMES(EG. CARBON MONOXIDE).

Hazardous Poly Occur: NO

Conditions To Avoid (Poly): NONE.

**Special Instruction: This material has no stabilizer. Exposure to air will cause formation of explosive peroxide. User must take care to re-seal the bottle under inert gas after each use or use in an inert environment.**

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Health Hazard Data

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LD50-LC50 Mixture: LDLO ORAL RAT=3000MG/KG;PEL=200PPM(TWA)

Route Of Entry - Inhalation: YES

Route Of Entry - Skin: YES

Route Of Entry - Ingestion: YES

Health Haz Acute And Chronic: INHAL:ANETHETIC,IRRITANT.INGEST:IRRITATING IRRITANT. CHRONIC-NO DATA.

Carcinogenicity - NTP: NO

Carcinogenicity - IARC: NO

Carcinogenicity - OSHA: NO

Explanation Carcinogenicity: RTECS(92-3) CITES MUTAGENIC STUDIES.

Signs/Symptoms Of Overexp: INHAL:HEADACHE,IRRITATION OF THE NOSE AND THRAOT,DIZZINESS.INGEST:SORE THROAT AND ABDOMINAL PAIN.SKIN:REDENSS AND PAIN.

Med Cond Aggravated By Exp: PRE-EXISTING SKIN OR EYE PROBLEMS,IMPAIRED LIVER OR KIDNEY FUNCTIONS.

Emergency/First Aid Proc: INHAL:REMOVE TO FRESH AIR.RESTORE OR ASSIST BREATHING IF NEEDED.CALL PHYSICIAN.INGEST:GET IMMEDIATE MEDICAL HELP.IF NOT AVAILABLE(AND CONSCIOUS),GIVE 2 GLASSES OF WATER,INDUCE VOMITING WITH FINGER DOWN THOAT(KEEP HEAD LOWER THAN HIPS).SKIN:REMOVE CONTAMINATED CLOTHING.FLUSH WITH WATER FOR 15 MINUTES.EYES:FLUSH WITH WATER,HOLDING LIDS OPENED.GET IMMEDIATE MEDICAL HELP.

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Precautions for Safe Handling and Use

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Steps If Matl Released/Spill: VENTILATE AREA.REMOVE SOURCES OF IGNITION. USE PROTECTIVE CLOTHING AND RESPIRATOR.USE NON-SPARKING EQUIPMENT.ADBSORB LIQUID WITH VERMICULITE,DRY SAND...PLACE IN AN APPROPRIATE CONTAINER FOR DISPOSAL.

Neutralizing Agent: NOT APPLICABLE.

Waste Disposal Method: COLLECT AS HAZARDOUS WASTE,LABEL AND DISPOSE OF IN ACCORDANCE WITH FEDERAL,STATE AND LOCAL REGULATIONS.

Precautions-Handling/Storing: KEEP CONTAINER CLOSED,AWAY FROM LIGHT,HEAT AND OXIDIZERS.

Other Precautions: Special Instruction: This material has no stabilizer. Exposure to air will cause formation of explosive peroxide. User must take care to re-seal the bottle under inert gas after each use or use in an inert environment.

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Control Measures

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Respiratory Protection: 1-FULL FACEPIECE WITH CHEMICAL CARTRIDGE RESPIRATOR.2-SCBA WITH FULL FACEPIECE OR AIR-LINED HOOD.  
Ventilation: LOCAL(PREFERRED,BECAUSE IT CAN CONTROL THE EMISION OF CONTAMINANTS) AND/OR GENERAL(MECHANICAL) EXHAUST.  
Protective Gloves: RUBBER OR NEOPRENE  
Eye Protection: SAFETY GOGGLES AND/OR SPLASH SHIELD  
Other Protective Equipment: IMPERVIOUS BOOTS,APRON,COVERALLS.EYE WASH STATION AND QUICK DRENCH SHOWER SHOULD BE AVAILABLE.  
Work Hygienic Practices: DO NOT WEAR CONTACT LENSES.WASH HANDS.KEEP FOOD OUT OF THE WORK AREA.USE PRUDENT HYGENIC AND SANITARY PRACTICES.  
Suppl. Safety & Health Data: NONE.

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Transportation Data

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DOT PSN Code: OAJ	IATA UN ID Number: 2056
DOT Proper Shipping Name: TETRAHYDROFURAN	IATA Proper Shipping Name: TETRAHYDROFURAN
DOT Class: 3	IATA UN Class: 3
DOT ID Number: UN2056	IATA Label: FLAMMABLE LIQUID
DOT Pack Group: II	AFI PSN Code: XSI
DOT Label: FLAMMABLE LIQUID *	AFI Prop. Shipping Name: TETRAHYDROFURAN
IMO PSN Code: OLO	AFI Class: 3
IMO Proper Shipping Name: TETRAHYDROFURAN	AFI ID Number: UN2056
IMO Regulations Page Number: 3282	AFI Pack Group: II
IMO UN Number: 2056	AFI Label: FLAMMABLE LIQUID
IMO UN Class: 3.2	AFI Basic Pac Ref: 7-7
IMO Subsidiary Risk Label: -	Additional Trans Data: REPORTABLE
IATA PSN Code: XSI	QUANTITY=1000 LBS.

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Disposal Data

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Refer to applicable regional, state and federal codes.

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Label Data

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Common Name: TETRAHYDROFURAN  
Chronic Hazard: NO  
Signal Word: DANGER!  
Acute Health Hazard-Moderate: X  
Contact Hazard-Moderate: X  
Fire Hazard-Severe: X  
Reactivity Hazard-Slight: X  
Special Hazard Precautions: INHAL:ANESTHETIC,IRRITANT.INGEST:IRRITATING TO IRRITANT. CHRONIC-NO DATA. KEEP CONTAINER CLOSED,AWAY FROM LIGHT,HEAT AND OXIDIZERS. FIRST AID: INHAL:REMOVE TO FRESH AIR.RESTORE OR ASSIST BREATHING IF NEEDED.CALL PHYSICIAN.INGEST:GET IMMEDIATE MEDICAL HELP.IF NOT

AVAILABLE(AND CONSCIOUS),GIVE 2 GLASSES OF WATER,INDUCE VOMITING WITH FINGER DOWN THOAT(KEEP HEAD LOWER THAN HIPS).SKIN:REMOVE CONTAMINATED CLOTHING.FLUSH WITH WATER FOR 15 MINUTES.EYES:FLUSH WITH WATER,HOLDING LIDS OPENED.GET IMMEDIATE MEDICAL HELP.

Protect Eye: Y

Protect Skin: Y

Protect Respiratory: Y

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The information contained herein is based on data considered to be accurate. However, no warranty is expressed regarding the accuracy of these data or the results to be obtained from the use thereof. It is the user's obligation to determine the conditions of safe use of the product.