Rhodia

Material Safety Data Sheet

TRIMETHYL PHOSPHITE

Date Prepared: 10/24/06 **Supersedes Date: 12/01/05**

1. PRODUCT AND COMPANY IDENTIFICATION

RHODIA INC.
RHODIA NOVECARE
CN7500
8 Cedar Brook Drive
Cranbury NJ 08512-7500

Emergency Phone Numbers:
FOR EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CONTACT: CHEMTREC (800-424-9300 within the United States or 703-527-3887 for international collect calls) or Rhodia CAERS (Communication and Emergency Response System) at 800-916-3232.

For Product Information:
(888) 776-7337

Chemical Name or Synonym:
TRIMETHYL PHOSPHITE; TMP

Molecular Formula:
$C_3H_9O_3P$

2. HAZARDS IDENTIFICATION

A. EMERGENCY OVERVIEW:

Physical Appearance and Odor:
clear, colorless water-like liquid, strong, unpleasant odor.

Warning Statements:
WARNING!! FLAMMABLE LIQUID AND VAPOR. CAUSES SKIN, EYE AND RESPIRATORY TRACT IRRITATION. MAY BE HARMFUL IF INGESTED. MAY CAUSE ALLERGIC SKIN REACTION. POSSIBLE HAZARD TO WOMEN OF CHILD-BEARING POTENTIAL, BASED ON ANIMAL DATA. REACTS WITH WATER TO PRODUCE HEAT, FLAMMABLE METHANOL AND DIMETHYL HYDROGEN PHOSPHITE.

B. POTENTIAL HEALTH EFFECTS:

Acute Eye:
Not expected to cause significant irritation to the eyes. May cause tearing.

Acute Skin:
Not expected to cause significant irritation to the skin. May cause redness, slight transient irritation.

National Fire Protection Association Hazard Ratings--NFPA(R):

1 Health Hazard Rating--Slight
3 Flammability Rating--Serious
1 Instability Rating--Slight

National Paint & Coating Hazardous Materials Identification System--HMIS(R):

1 Health Hazard Rating--Slight
3 Flammability Rating--Serious
1 Reactivity Rating--Slight

Reason for Revisions:
Change and/or addition made to Section 2, Exposure Limits in Section 8.

Key Legend Information:
ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
TLV - Threshold Limit Value
PEL - Permissable Exposure Limit
TWA - Time Weighted Average
STEL - Short Term Exposure Limit
NTP - National Toxicology Program
IARC - International Agency for Research on Cancer
ND - Not determined
RHODIA - Rhodia Established Exposure Limits

Disclaimer:
The information herein is given in good faith but no warranty, expressed or implied, is made.

** End of MSDS Document **

15. REGULATORY INFORMATION

Inventory Status

Inventory	Status
UNITED STATES (TSCA)	Y
CANADA (DSL)	Y
EUROPE (EINECS/ELINCS)	Y
AUSTRALIA (AICS)	Y
JAPAN (MITI)	Y
SOUTH KOREA (KECL)	Y

Y = All ingredients are on the inventory.
E = All ingredients are on the inventory or exempt from listing.
P = One or more ingredients fall under the polymer exemption or are on the no longer polymer list. All other ingredients are on the inventory or exempt from listing.
N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing.

FEDERAL REGULATIONS

Inventory Issues:
All functional components of this product are listed on the TSCA Inventory.

SARA Title III Hazard Classes:

Fire Hazard	- YES
Reactive Hazard	- NO
Release of Pressure	- NO
Acute Health Hazard	- NO
Chronic Health Hazard	- YES

SARA Extremely Hazardous Substances (EHS)/CERCLA Hazardous Substances

Ingredient	CERCLA/SARA RQ	SARA EHS TPQ
METHANOL	5000 lbs	

OTHER FEDERAL REGULATIONS:

Weapons Precursor Regulations:
This product is regulated by the U.S. Department of Commerce under the provisions of the Chemical Weapons Convention (15 CFR Parts 730-774).

STATE REGULATIONS:
This product contains the following components that are regulated under California Proposition 65:

Ingredient Name	Cancer List	Reprod. List	No Sign. Risk Lvl (ug/day) California	RPI
PHOSPHORIC ACID, TRIMETHYL ESTER	Y	N	24	ND

16. OTHER INFORMATION

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:
Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state and local regulations regarding the proper disposal of this material.

EPA Hazardous Waste - YES

EPA RCRA HAZARDOUS WASTE CODES:
"I" Ignitable.

14. TRANSPORT INFORMATION

Transportation Status: IMPORTANT! Statements below provide additional data on listed DOT classification.
The listed Transportation Classification does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors.

US DOT:
Hazard Class..... 3
Shipping Name:
ESTERS, N.O.S.
Technical Shipping Name:
(CONTAINS TRIMETHYL PHOSPHITE)
ID Number..... UN3272
Packing Group.... II
Labels..... FLAMMABLE LIQUID
Emergency Guide #.... 127

TDG:
Hazard Class..... 3
Shipping Name: ESTERS, N.O.S.
Technical Shipping Name: (CONTAINS TRIMETHYL PHOSPHITE)
ID Number..... UN3272
Packing Group.... II

IMO:
Hazard Class..... 3
Shipping Name: ESTERS, N.O.S.
Technical Shipping Name: (CONTAINS TRIMETHYL PHOSPHITE)
ID Number..... UN3272
Packing Group.... II

IATA:
Hazard Class..... 3
Shipping Name: ESTERS, N.O.S.
Technical Shipping Name: (CONTAINS TRIMETHYL PHOSPHITE)
ID Number..... UN3272
Packing Group.... II

Decomposition Type: thermal
oxides of phosphorus
oxides of carbon

Hazardous Polymerization Will Not Occur.

Avoid The Following To Inhibit Hazardous Polymerization:
none known

11. TOXICOLOGICAL INFORMATION

Acute Eye Irritation:
Toxicological Information and Interpretation:
eye - eye irritation, rabbit. This material is not expected to cause significant irritation to the eyes.

Acute Skin Irritation:
Toxicological Information and Interpretation:
skin - skin irritation, rabbit. This material is not expected to cause significant irritation to the skin.

Acute Dermal Toxicity:
Toxicological Information and Interpretation:
LD50 - lethal dose 50% of test species, 2200 mg/kg, rabbit.

Acute Respiratory Irritation:
No test data found for product.

Acute Inhalation Toxicity:
Toxicological Information and Interpretation:
LC50 - lethal concentration 50% of test species, > 20 mg/l/1 hr, rat.

Acute Oral Toxicity:
Toxicological Information and Interpretation:
LD50 - lethal dose 50% of test species, > 2000 mg/kg, rat.

Chronic Toxicity:
This product does not contain any substances that are considered by OSHA, NTP, IARC or ACGIH to be "probable" or "suspected" human carcinogens.

Toxicological Information and Interpretation - MUTAGENICITY, **. Negative in the Ames Test. Positive in the Mouse Lymphoma with activation. Fetal injury has be observed in experimental animals at doses which do not cause maternal toxicity.

12. ECOLOGICAL INFORMATION

Ecotoxicological Information:
No data found for product.

Chemical Fate Information:
No data found for product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical properties here represent typical properties of this product. Contact the business area using the Product Information phone number in Section 1 for its exact specifications.

Physical Appearance:
clear, colorless water-like liquid.

Odor:
strong, unpleasant odor.

pH:
Not Applicable

Specific Gravity:
1.046 at 20 C (68 F).

Density:
1.046 g/ml at 20 C (68 F).

Water Solubility:
insoluble

Melting Point Range:
Not Available

Boiling Point Range:
111 to 112 C (232 to 234 F) at 760 mmHg

Vapor Pressure:
> 17 mmHg at 20 C (68 F)

Vapor Density:
Not Available

Molecular Weight:
124.08

10. STABILITY AND REACTIVITY

Chemical Stability:
This material is stable under normal handling and storage conditions described in Section 7.

Conditions To Be Avoided:
heat
open flame
See HAZARD WARNING under HANDLING : in Section 7.

Materials/Chemicals To Be Avoided:
air
water
strong oxidizing agents

The Following Hazardous Decomposition Products Might Be Expected:

PHOSPHOROUS ACID, TRIMETHYL ESTER

	Notes	TWA	STEL
ACGIH		2 ppm	
OSHA		2 ppm	
OSHA		10 mg/cu m	

PHOSPHONIC ACID, METHYL-, DIMETHYL ESTER

	Notes	TWA	STEL
RHODIA		0.4 mg/cu m	

PENTANE

	Notes	TWA	STEL
ACGIH		600 ppm	
OSHA		600 ppm	2250 mg/cu m
OSHA		1800 mg/cu m	750 ppm

METHANOL

	Notes	TWA	STEL
ACGIH	S	200 ppm	250 ppm
OSHA	S	200 ppm	325 mg/cu m
OSHA	S	260 mg/cu m	250 ppm

Engineering Controls:
Where engineering controls are indicated by use conditions or a potential for excessive exposure exists, the following traditional exposure control techniques may be used to effectively minimize employee exposures: enclosed system design, local exhaust ventilation at the point of generation.

Respiratory Protection:
When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations.

Eye/Face Protection:
Eye and face protection requirements will vary dependent upon work environment conditions and material handling practices. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this material.

Eye contact should be prevented through use of chemical safety glasses with side shields or splash proof goggles. An emergency eye wash must be readily accessible to the work area.

Skin Protection:
Skin contact should be prevented through use of suitable protective clothing, gloves and footwear, selected with regard for use conditions and exposure potential. Consideration must be given both to durability as well as permeation resistance.

Work Practice Controls:
Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material:

(1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.
(2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.
(3) Wash exposed skin promptly to remove accidental splashes or contact with this material.

Cleanup and Disposal of Spill:
Absorb with an inert absorbent. Pump any free liquid into an appropriate closed container (see Section 7: Handling and Storage). DO NOT RETURN MATERIAL TO ITS ORIGINAL CONTAINER. Decontaminate tools and equipment following cleanup. Use non-sparking tools.

Environmental and Regulatory Reporting:
Do not flush to drain. Runoff from fire control or dilution water may cause pollution. Prevent material from entering public sewer system or any waterways. Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies. Large spills should be handled according to a predetermined plan. For assistance in developing a plan contact the Technical Service Department using the Product Information phone number in Section 1.

7. HANDLING AND STORAGE

Minimum/Maximum Storage Temperatures:
Not Available

Handling:
Avoid breathing vapors. Avoid direct or prolonged contact with skin and eyes. Use nonsparking tools and grounded/bonded equipment and containers when transferring. Personnel handling this product should be thoroughly trained as to its hazards. Store, transfer and handle under a blanket of nitrogen. Avoid contact with water and excess humidity. Reaction with water produces heat, methanol and dimethyl hydrogen phosphite.

** HAZARD WARNING: If this product is used in combination with Trimethylolpropane, Trimethylolpropane derived products or their corresponding Trimethylol alkane homologs, THERE IS A POSSIBILITY that bicyclic phosphates and/or phosphites may be produced as a result of thermal decomposition. Bicyclic phosphates and phosphites have acute neurotoxic properties and may cause convulsive seizures in laboratory test animals. Therefore, this product should not be used in conjunction with Trimethylolpropane or Trimethylolpropane derived products unless tested to determine their decomposition toxicity. Follow all precautionary measures outlined in this Material Safety Data Sheet and/or contact Rhodia Inc.

Storage:
Contact with air causes degradation. Store in an area that is clean, diked, dry, cool, well-ventilated, away from ignition sources, Store in tightly closed containers. Store away from; oxidizers, away from incompatible materials (see Section 10. Stability and Reactivity).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Introductory Remarks:
These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. While developing safe handling procedures, do not overlook the need to clean equipment and piping systems for maintenance and repairs. Waste resulting from these procedures should be handled in accordance with Section 13: Disposal Considerations.

Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

Exposure Guidelines:
Exposure limits represent regulated or recommended worker breathing zone concentrations measured by validated sampling and analytical methods, meeting the regulatory requirements. The following limits apply to this material, where, if indicated, S=skin and C=ceiling limit:

All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Treat symptomatically. No specific antidote available.

5. FIRE FIGHTING MEASURES

FIRE HAZARD DATA:

Flash Point:
15 C (60 F). Flammability Class: EXTREMELY FLAMMABLE.

Method Used:
Setaflash Closed Cup

Flammability Limits (vol/vol%):	**Lower:**	**Upper:**
	No Data	No Data

Extinguishing Media:
Recommended: dry chemical, alcohol foam, water fog, carbon dioxide, water spray.

Special Fire Fighting Procedures:
Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing. Fight fire from maximum distance. Keep unnecessary people away, isolate hazard area and deny entry. Isolate for 1/2 mile in all directions if tank car or truck is involved in fire. Stay upwind; keep out of low areas. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. Move containers from fire area if you can do so without risk. Cool containers exposed to fire with water. CAUTION: After fire is extinguished, vapors could accumulate and travel to a source of ignition and flash back. Persons who may have been exposed to contaminated smoke should be immediately examined by a physician and checked for symptoms of poisoning. The symptoms should not be mistaken for heat exhaustion or smoke inhalation.

Unusual Fire and Explosion Hazards:
Product will burn under fire conditions. Vapors may travel a considerable distance to a source of ignition and flash back along vapor trail. Containers may explode (due to the build-up of pressure) when exposed to extreme heat.

Hazardous Decomposition Materials (Under Fire Conditions):
oxides of phosphorus
oxides of carbon

6. ACCIDENTAL RELEASE MEASURES

Evacuation Procedures and Safety:
Ventilate closed spaces before entering. Eliminate all sources of ignition until the area is determined to be free from explosion or fire hazards. Wear appropriate protective gear for the situation. See Personal Protection information in Section 8. Evacuate and isolate spill area.

Containment of Spill:
Dike spill using absorbent or impervious materials such as earth, sand or clay. Cover spill area with foam to reduce vapors. Follow procedure described below under Cleanup and Disposal of Spill. Collect and contain contaminated absorbent and dike material for disposal.

Acute Inhalation:
Not expected to cause significant irritation to the lungs, upper respiratory tract or nose. May cause coughing, shortness of breath.

Acute Ingestion:
May cause nausea, vomiting.

Chronic Effects:
This product does not contain any ingredient designated by IARC, NTP, ACGIH or OSHA as probable or suspected human carcinogens. Repeated, prolonged contact may cause liver damage, lung damage, reproductive disorders, (See Section 11-Chronic for a discussion of animal studies.).

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Reg Number	OSHA Hazard	% WT/WT
PHOSPHOROUS ACID, TRIMETHYL ESTER	121-45-9	Y	> 96
PHOSPHONIC ACID, DIMETHYL ESTER	868-85-9	Y	< 1
PHOSPHORIC ACID, TRIMETHYL ESTER	512-56-1	Y	< 0.5
PHOSPHONIC ACID, METHYL-, DIMETHYL ESTER	756-79-6	Y	< 0.1
PENTANE	109-66-0	Y	< 0.5
METHANOL	67-56-1	Y	< 0.5

4. FIRST AID MEASURES

FIRST AID MEASURES FOR ACCIDENTAL:

Eye Exposure:
Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. Seek medical attention if irritation develops or persists or if visual changes occur.

Skin Exposure:
In case of contact, immediately wash with plenty of soap and water for at least 5 minutes. Seek medical attention if irritation developes or persists. Remove contaminated clothing and shoes. Clean contaminated clothing and shoes before re-use.

Inhalation:
Remove victim from immediate source of exposure and assure that the victim is breathing. If breathing is difficult, administer oxygen, if available. If victim is not breathing, administer CPR (cardio-pulmonary resuscitation). Seek medical attention.

Ingestion:
NEVER attempt to induce vomiting. Do not give the affected person anything to drink, even if he is fully conscious. Transport to hospital immediately.

MEDICAL CONDITIONS POSSIBLY AGGRAVATED BY EXPOSURE:
Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis.

NOTES TO PHYSICIAN: