

Material Safety Data Sheet

Date Printed: 02/JUN/2005

Date Updated: 23/APR/2004

Version 1.2

According to 91/155/EEC

Classified as Hazardous according to the criteria of EU Annex 1 and NOHSC.

1 - Product and Company Information

Product Name	TRIMETHYL PHOSPHITE, 99+%
Product Number	240907
Company	Sigma-Aldrich Pty, Ltd Unit 2, 14 Anella Avenue Castle Hill NSW 1765 Australia
Technical Phone #	+61 2 9841 0555
Fax	+61 2 9841 0500
Emergency Phone #	+61 2 9841 0566

2 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I Index Number
TRIMETHYL PHOSPHITE	121-45-9	204-471-5	None

Ingredient Name	Percent	CAS #	EC no	Annex I
THE FOLLOWING SUBSTANCES ARE PRESENT AS RESIDUAL COMPONENTS OF PRODUCTION.		None	None	None

TRIMETHYL PHOSPHATE	< 0.5	512-56-1	208-144-8	None
---------------------	-------	----------	-----------	------

Symbols: T

R-Phrases: 46 22 40

May cause heritable genetic damage. Also harmful if swallowed.
Limited evidence of a carcinogenic effect.

Formula	(CH ₃ O) ₃ P
Molecular Weight	124.08 AMU
Synonyms	Fosforyn trojmetylowy (Czech) * Trimethoxyfosfin (Czech) * Trimethoxyphosphine * Trimethylfosfit (Czech) * Trimethyl phosphite (ACGIH)

3 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT

May cause heritable genetic damage. Flammable. Harmful if
swallowed. Irritating to eyes, respiratory system and skin.

4 - First Aid Measures

AFTER INHALATION

If inhaled, remove to fresh air. If not breathing give
artificial respiration. If breathing is difficult, give oxygen.

AFTER SKIN CONTACT

In case of contact, immediately wash skin with soap and copious amounts of water.

AFTER EYE CONTACT

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

AFTER INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

5 - Fire Fighting Measures

EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

SPECIAL RISKS

Specific Hazard(s): Flammable liquid. Emits toxic fumes under fire conditions.

Explosion Hazards: Vapor may travel considerable distance to source of ignition and flash back. Container explosion may occur under fire conditions. Forms explosive mixtures in air.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

6 - Accidental Release Measures

PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area. Shut off all sources of ignition.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Cover with dry-lime, sand, or soda ash. Place in covered containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

7 - Handling and Storage

HANDLING

Directions for Safe Handling: Avoid breathing vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Conditions of Storage: Keep container closed. Keep away from heat, sparks, and open flame.

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS

Safety shower and eye bath. Use nonsparking tools. Mechanical exhaust required.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling. Wash contaminated clothing before

reuse.

EXPOSURE LIMITS - DENMARK

Source	Type	Value
OEL	TWA	2.6 mg/m3
		0.5 ppm

EXPOSURE LIMITS - GERMANY

Source	Type	Value
TRGS 900	OEL	2.6 mg/m3

Remarks: NL

EXPOSURE LIMITS - NORWAY

Source	Type	Value
	OEL	2.6 mg/m3
		0.5 ppm

EXPOSURE LIMITS - SWITZERLAND

Source	Type	Value
OEL	OEL	10 mg/m3
		2 ppm

EXPOSURE LIMITS - UNITED KINGDOM

Source	Type	Value
OEL	OEL	10 mg/m3
		2 ppm

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Government approved respirator.

Hand Protection: Compatible chemical-resistant gloves.

Eye Protection: Chemical safety goggles.

9 - Physical and Chemical Properties

Appearance	Physical State: Liquid
	Color: Colorless

Property	Value	At Temperature or Pressure
pH	N/A	
BP/BP Range	111 - 112 °C	760 mmHg
MP/MP Range	-78 °C	
Flash Point	28 °C	Method: closed cup
Flammability	N/A	
Autoignition Temp	N/A	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	N/A	
Vapor Pressure	17 mmHg	20 °C
SG/Density	1.052 g/cm3	
Partition Coefficient	N/A	
Viscosity	N/A	
Vapor Density	4.3 g/l	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	
Bulk Density	N/A	
Decomposition Temp.	N/A	
Solvent Content	N/A	
Water Content	N/A	
Surface Tension	N/A	
Conductivity	N/A	
Miscellaneous Data	N/A	

10 - Stability and Reactivity

STABILITY

Stable: Stable.

Conditions to Avoid: Thermal decomposition of this product in combination with trimethylol propane, trimethylol propane derived products or their corresponding alkane analogs may result in the production of bicyclic phosphates or phosphites. Bicyclic phosphates and phosphites are products that display acute neurotoxic properties such as characteristic convulsive seizures

Moisture.

Materials to Avoid: Oxidizing agents, Strong bases Do not use water.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Thermal decomposition may produce toxic fumes of phosphorus oxides and/or phosphine Carbon monoxide, Carbon dioxide.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

11 - Toxicological Information

RTECS NUMBER: TH1400000

ACUTE TOXICITY

LD50
Oral
Rat
1600 mg/kg

LD50
Oral
Mouse
4280 mg/kg
Remarks: Behavioral:Convulsions or effect on seizure threshold.
Behavioral:Ataxia. Lungs, Thorax, or Respiration:Respiratory depression.

LD50
Intraperitoneal
Mouse
4180 MG/KG

LD50
Skin
Rabbit
2600 mg/kg

IRRITATION DATA

Eyes
Remarks: No irritation effect
Skin
Remarks: Moderate irritation effect
Skin
Remarks: Moderate irritation effect
Eyes
Remarks: Severe irritation effect

Eyes
Remarks: Severe irritation effect

Skin
Rabbit
500 mg
Remarks: Severe irritation effect

Skin
Mammal
500 mg
Remarks: Mild irritation effect

Eyes
Mammal
100 mg
Remarks: Mild irritation effect

SENSITIZATION

Sensitization: Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

SIGNS AND SYMPTOMS OF EXPOSURE

Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Exposure can cause: Chemical pneumonitis. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.
Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: Causes eye irritation.
Inhalation: Material is irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.
Ingestion: Harmful if swallowed.

TARGET ORGAN INFORMATION

Nerves. Eyes. Liver. Lungs. Reproductive system.

CHRONIC EXPOSURE - TERATOGEN

Species: Rat
Dose: 1640 MG/KG
Route of Application: Oral
Exposure Time: (6-15D PREG)
Result: Specific Developmental Abnormalities: Central nervous system. Specific Developmental Abnormalities: Craniofacial (including nose and tongue). Specific Developmental Abnormalities: Musculoskeletal system.

Species: Rat
Dose: 1640 MG/KG
Route of Application: Oral
Exposure Time: (6-15D PREG)
Result: Specific Developmental Abnormalities: Urogenital system. Specific Developmental Abnormalities: Homeostasis

12 - Ecological Information

No data available.

13 - Disposal Considerations

SUBSTANCE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

14 - Transport Information

RID/ADR

UN#: 2329
Class: 3
PG: III
Proper Shipping Name: Trimethyl phosphite

IMDG

UN#: 2329
Class: 3
PG: III
Proper Shipping Name: Trimethyl phosphite
Marine Pollutant: No
Severe Marine Pollutant: No

IATA

UN#: 2329
Class: 3
PG: III
Proper Shipping Name: Trimethyl phosphite
Inhalation Packing Group I: No

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

INDICATION OF DANGER: T
Toxic.

R-PHRASES: 46 10 22 36/37/38

May cause heritable genetic damage. Flammable. Harmful if swallowed. Irritating to eyes, respiratory system and skin.

S-PHRASES: 53 26 36 45

Avoid exposure - obtain special instructions before use. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

COUNTRY SPECIFIC INFORMATION

Germany

WGK: 1

SWITZERLAND

SWISS POISON CLASS: 4

16 - Other Information

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to

appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2005 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

DISCLAIMER

For R&D use only. Not for drug, household or other uses.