

1. Identification of Substance / Mixture




Product Identifier

Product Name	Trimethylphosphine solution, 1.0 M in THF
Other Names	
Product Code	104924
CAS	594-09-2
MDL	
EINECS	N/A
REACH Registration Number	
Relevant Uses	Research and Development
Uses Advised Against	No uses advised against.

Supplier Details

Company	Fluorochem Limited
Address	Unit 14, Graphite Way, Hadfield. SK13 1QH. UK
Telephone	+44(0)1457 860111
Email	sds@fluorochem.co.uk
Emergency Telephone	+44(0)1457 860111 (08:00 - 17:30)

2. Hazards Identification

Classification	Flam. Liq. 2 Acute Tox. 4 Skin Irrit. 2 Eye Irrit. 2A STOT SE 3 Carc. 2
Signal Word	Danger
Pictograms	   GHS02 GHS07 GHS08
Hazards	<p>H225 Highly flammable liquid and vapour. H302 Harmful if swallowed. H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation. H351 Suspected of causing cancer. EUH018 In use may form flammable/explosive vapour-air mixture. EUH019 May form explosive peroxides.</p>
Precautions	<p>P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P233 Keep container tightly closed. P240 Ground and bond container and receiving equipment. P241 Use explosion-proof equipment. P242 Use non-sparking tools. P243 Take action to prevent static discharges. P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P264 Wash hands thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P271 Use only outdoors or in a well-ventilated area. P280 Wear face protection. P301+P312 IF SWALLOWED: Call a doctor if you feel unwell. P302+P352 IF ON SKIN: Wash with plenty of water. P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308+P313 IF exposed or concerned: Get medical advice/attention. P312 Call a POISON CENTER/doctor if you feel unwell. P321 Specific treatment. P330 Rinse mouth. P337+P313 If eye irritation persists: Get medical advice/attention. P362+P364 Take off contaminated clothing and wash it before reuse. P370+P378 In case of fire: Use dry sand to extinguish. P403+P233 Store in a well-ventilated place. Keep container tightly closed. P403+P235 Store in a well-ventilated place. Keep cool.</p>

P405 Store locked up.
Bottle may be under pressure

Other Classification Hazards

3. Composition of Ingredients

MIXTURE

Name	CAS	Einecs	Composition	Hazards
Trimethylphosphine	594-09-2	N/A	10%	H225 Flam. Liq. 2 H315 Skin Irrit. 2 H319 Eye Irrit. 2 H335 STOT SE 3
Tetrahydrofuran	109-99-9	90%	H225 Flam. Liq. 2 H315 Skin Irrit. 2 H319 Eye Irrit. 2 H351 Carc. 2	

4. First Aid Measures

Eye contact	In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Protect uninjured eye. Remove contact lenses, if present and easy to do. Continue rinsing and seek medical attention.
Ingestion	If swallowed rinse the mouth with plenty of water (only if the person is conscious) and contact a poison centre or physician if you feel unwell.
Inhalation	Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory problems seek immediate medical attention.
Skin Contact	After contact with skin, wash immediately with plenty of water and soap. Remove contaminated clothing immediately. In case of skin reactions, consult a physician.
General Advice	No additional advice.
Most Important Symptoms and Effects	No known symptoms or effects.
Immediate First Aid Measures	No additional first aid measures required.

5. Fire Fighting Measures

Suitable Fire Extinguishing Media	Carbon Dioxide or Dry chemical.
Unsuitable Fire Extinguishing Media	Water.
Special Hazards	May form explosive peroxides.
Advice for Fire Fighters	As in any fire, wear self-contained breathing apparatus and full protective gear.

6. Accidental Release Measures

Personal Precautions	Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Keep personnel away from spill/leak.
Environmental Precautions	Do not let product enter drains or waterways. Avoid discharge into the environment.
Containment - Methods and Materials	Absorb the spilled material with an inert absorbent (e.g. sand, silica gel, rag, vermiculite) before transferring into an airtight container. Remove all sources of ignition. Dispose of appropriately according to local regulations.
Referenced SDS Sections	For personal protection see section 8. For disposal see section 13.

7. Handling and Storage

Personal Precautions

Safe Handling	Handle and store under inert gas. Do not allow contact with water. Use only under a chemical fume hood. Keep away from heat/sparks/open flame/hot surfaces. Protect from moisture. Take measures to prevent the build-up of electrostatic charge. Ensure adequate exhaust ventilation, especially if dust, aerosol or fumes will be generated. Avoid contact with skin, eyes and clothing. For precautions see section 2.2.
Protection Against Explosion and Fire	Where possible, use anti static and spark proof equipment when handling.
General Occupational Hygiene	Handle in accordance with good industrial hygiene and safety practice. Wash hands before and after use. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use.

Conditions for Safe Storage and Incompatibilities

Managing Storage Risks	Keep away from heat/sparks/open flame/hot surfaces. Take measures to prevent the build-up of electrostatic charge. Air sensitive.
Storage Controls	Do not allow product to come into contact with water. Store under inert gas.
Maintaining Integrity	Always store and handle under inert gas.
Other Advice	Reacts violently with water. The bottle may be under pressure. Ensure product is handled by a professional or qualified personnel in a fume cupboard with correct PPE.
Specific End Use(s)	No specific end uses are advised. The products supplied are for research purposes only.

8. Exposure Controls / Personal Protection

Control Parameters

Country	Info	Long Term (ppm)	Long Term (mgm3)	Short Term (ppm)	Short Term (mgm3)	Ceiling (ppm)	Ceiling (mgm3)	Other Unit	Remarks
BE		50	150	100	300				(peut ȳ½tre absorbiȳ½ par la peau)
CZ		50.1	150	100.2	300				(mȳ½e pronikat pokoiȳ½kou)
PL			150		300				(moȳ½e przenika? przez skiȳ½r? do organizmu)
NO		50	150						(kan absorberes gjennom huden)
DE	TRGS 900	50	150	100	300				(kann ȳ½ber die Haut aufgenommen werden)
IE		50	150	100	300				(may be absorbed through the skin)
FI	HTP	50	150	100	300				(kan absorberas genom huden)
LT		50	150	100	300				(tikȳ½tinas ? sisavinimas per od?)
SK	NPEL	50	150	100	300				(riȳ½tajte so vstrebȳ½vaniȳ½m cez pokoiȳ½ku)
AT	MAK			100	300				(max. 4x15 min./Schicht, kann ȳ½ber die Haut aufgenommen werden)
BG		50	150	100	300				(?????? ?? ?? ?????? ?????????? ??? ???? ????)
DK		50	150	100	300				(kan optages gennem huden)
HR		50	150	100	300				(mora se uzeti u obzir prodiranje kroz koȳ½u)
RO		50	150	100	300				(e de asteptat asimilarea prin piele)
ES		50	150	100	300				(puede ser absorbido a travȳ½s dȳ½rmica)
EE		50	150	100	300				(naha kaudu kergesti absorbeeruvad ained)
CA	Alberta	50	147	100	295				
CA	BC	50		100					(may be absorbed through the skin)
EU	IOELV	50	150	100	300				(may be absorbed through the skin)
NZ		100	295						(may be absorbed through the skin)
JP		50	148						(may be absorbed through the skin)
FR	VRC	50	150	100	300				(peut ȳ½tre absorbiȳ½ par la peau)
MX		50		100					(puede ser absorbido a travȳ½s dȳ½rmica)
AU		100	295						(may be absorbed through the skin)
SI		50	150	100	300				(raȳ½unati je treba z moȳ½nostjo prodiranja skozi koȳ½o)
GB	WEL	50	150	100	300				(may be absorbed through the skin)
TW		200	590						
AT	MAK	50	150						(kann ȳ½ber die Haut aufgenommen werden)
KR		50	140	100	280				
IS		50	150	100	300				(efniiȳ½ getur)

CH		50	150	100	300		auðveldlega borist inn í líkamann gegnum húð (kann íber die Haut aufgenommen werden)
CN			300				
HU			150		300		(felvehet? a b? részön keresztül)
RU						100	
NL			300		600		(kan door de huid in het lichaam worden opgenomen)
BR		156	460				
MY		200	590				
SE		50	150	100	300		
ID		50		100			(diharapkan dapat diserap lewat kulit)
US	OSHA	200	590				
US	NIOSH	200	590	250	735		
US	ACGIH	50	147	100	295		(may be absorbed through the skin)
CA	Quiébec	100	300				

Engineering Measures

Use only under a chemical fume hood ensuring adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location.

Face Protection

Wear tightly fitting safety goggles which adhere to European standard EN 166. Ensure eye bath is to hand.

Hand Protection

Handle with impermeable gloves. Inspect gloves before use. Gloves must satisfy the specifications of EU Directive 89/686/EEC and the standard EN374 derived from it. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Skin Protection

Wear appropriate protective clothing ensuring all skin is covered. Wear safety shoes that meet at least S1 standards. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory Protection

Product should be handled in a fume cupboard with adequate extraction. No respiratory equipment is needed under normal use conditions.

Hygiene Protection

Ensure hair or skin particles cannot enter the chemical container.

Environment Exposure Controls

Avoid discharge into the environment, see section 6.2.

9. Physical and Chemical Properties

State

Appearance

Odour

Odour Threshold

pH No data available.

Melting Point / Freezing Point No data available.

Initial Boiling Point No data available.

Boiling Range No data available.

Flash Point No data available.

Evaporation Rate No data available.

Flammability

Upper / Lower Flammability or Explosion Limits No data available.

Vapour Pressure No data available.

Vapour Density No data available.

Relative Density No data available.

Solubility No data available.

Partition Coefficient

Auto Ignition Temperature No data available.

Decomposition Temperature No data available.

Viscosity No data available.

Explosive Properties

Oxidising Properties

Other information

10. Stability and Reactivity

Reactivity	Reacts violently with water.
Stability	Moisture sensitive.
Possibility of Hazardous Reactions	Reacts violently with water. May form explosive peroxides.
Conditions To Avoid	Avoid exposure to moisture. Heat, sparks, open flames, sources of ignition. Exposure to moisture.
Incompatible Materials	Water.
Hazardous Decomposition Products	No Data Available.

11. Toxicology Information

Acute Toxicity	No Toxicology data available for this product.
Skin Corrosion / Irritation	No Toxicology data available for this product.
Serious Eye Damage / Irritation	No Toxicology data available for this product.
Respiratory or Skin Sensitisation	Suspected of causing cancer.
Germ Cell Mutagenicity	No Toxicology data available for this product.
Carcinogenicity	Suspected of causing cancer.
Reproductive Toxicity	No Toxicology data available for this product.
STOT-single Exposure	No Toxicology data available for this product.
STOT-repeated Exposure	No Toxicology data available for this product.
Aspiration Hazard	No Toxicology data available for this product.
Additional Toxicology Information	No Toxicology data available for this product.

12. Ecological Information

Toxicity	No Ecological data available for this product.
Persistence and Degradability	No Ecological data available for this product.
Bio-Accumulative Potential	No Ecological data available for this product.
Mobility in Soil	No Ecological data available for this product.
Results of PBT and vPvB assessment	No Ecological data available for this product.
Endocrine Disrupting Properties	No Ecological data available for this product.
Other Adverse Effects	No Ecological data available for this product.

13. Disposal Considerations

Disposal Operations	Ensure product is disposed of by licensed waste carriers.
Disposal of Packaging	Ensure INNER PACKAGING is disposed of by licensed waste carriers. Some OUTER PACKAGING MAY be recyclable if not contaminated.

14. Transport Information

IATA UN Number	1993	ADR UN Number	1993	IMDG UN Number	1993
IATA Proper Shipping Name	FLAMMABLE LIQUID, N.O.S. (Trimethylphosphine solution, 1.0 M in THF)	ADR Proper Shipping Name	FLAMMABLE LIQUID, N.O.S. (Trimethylphosphine solution, 1.0 M in THF)	IMDG Proper Shipping Name	FLAMMABLE LIQUID, N.O.S. (Trimethylphosphine solution, 1.0 M in THF)
IATA Packing Group	II	ADR Packing Group	II	IMDG Packing Group	II
IATA Hazard Class	3	ADR Hazard Class	3	IMDG Hazard Class	3
IATA Sub Class		ADR Sub Class		IMDG Sub Class	-
				IMDG Special Provisions	
				IMDG IBC Instructions	
				IMDG IBC Instructions	IBC02
				IMDG Tank Instructions	T7
				IMDG Tank	TP1, TP8, TP28

15. Regulatory Information

Regulatory Information	As far as Fluorochem is aware, there are no further regulations controlling this product.
Chemical Safety Assessment	No Chemical Safety Assessment available for this product.

16. Other Information

Information Not Covered in Other Sections	<p>ADR: Accord Europeen sur le transport des marchandises Dangereuses par Route(European Agreement concerning the International Carriage of Dangerous Goods by road)</p> <p>RID:Reglement International concernant le transport des marchandises dangereuses par chemin de fer (Regulations concerning the International transport of Dangerous Goods by Rail)</p> <p>IMDG: International Maritime Code for Dangerous Goods</p> <p>IATA: International Air Transport Association</p> <p>IATA-DGR: Dangerous Goods Regulations by the International Air Transport Association ICAO:International Civil Aviation Organization</p> <p>ICAO-TI: Technical Instructions by the ICAO</p> <p>GHS: Globally Harmonized System of Classification and Labelling of Chemicals</p> <p>CAS:Chemical Abstracts Service</p>
Revision	2.109
Date Modified	03/11/2022
Disclaimer	<p>The product listed is for research and development purposes only and not for human or animal use. As such, in most cases, the toxicological, ecological and physicochemical properties have not been fully determined and the product should be treated with respect and always handled under suitable conditions by appropriately qualified personnel. The responsible party shall use this datasheet only in conjunction with other sources of information gathered by them, and should make an independent judgement of suitability, to ensure proper use and protect the health and safety of employees. This information is furnished without warranty and any use of the product not in conformance with this material safety data sheet, or in combination with any other product or process, is the responsibility of the user. This SDS adheres to Regulation (EC) No 1907/2006.</p>