

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Mostop

Use: Public health

Company Name:

Coopers Environmental Science (Pty) Ltd
Reg. No. 2000/023667/07
P.O. Box 14374
BREDELL 1623
SOUTH AFRICA
TEL: (011) 979-4246/7

Emergency Contact Numbers:

Griffon Poison Information Centre: 082 446 8946
Poison Information Centre: 0861 555 777

2. HAZARDS IDENTIFICATION

SANS 10234:2008, Regulation EC 1272/2008 [EU-GHS/CLP]		
Hazard classes	Hazard categories	Hazard codes
Flammable Liquid	Category 3	H226
Acute Tox. (oral)	Category 4	H302
Aspiration Hazard	Category 2	H305
Acute Tox. (dermal)	Category 4	H312
Skin Irritation	Category 3	H316
Eye Irritation / Damage	Category 1	H318
Acute Tox. (inhalation)	Category 4	H332
STOT-SE (respiratory irritation)	Category 3	H335
STOT-SE (drowsiness or dizziness)	Category 3	H336
Aquatic Acute	Category 1	H400
Aquatic Chronic	Category 3	H412

Hazard pictograms:



Signal Word: Danger

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Hazard Phrases:

H226: Flammable liquid and vapour.
H302: Harmful if swallowed.
H305: May be harmful if swallowed and enters airways.
H312: Harmful in contact with skin.
H316: Causes mild skin irritation.
H318: Causes serious eye damage.
H332: Harmful if inhaled.
H335: May cause respiratory irritation.
H336: May cause drowsiness or dizziness.
H400: Very toxic to aquatic life.
H412: Harmful to aquatic life with long lasting effects.

Precautionary Phrases:

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233: Keep containers tightly closed.
P261: Avoid breathing fume, mist, vapours or spray.
P264+P265: Wash hands and face thoroughly after handling. Do not touch eyes.
P270: Do not eat, drink or smoke when using this product.
P271: Use only outdoors or in a well-ventilated area.
P273: Avoid release into the environment.
P280: Wear protective gloves, protective clothing, eye and face protection.
P301+P316: IF SWALLOWED: Get emergency medical help immediately.
P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P354+P338: IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P330: Rinse mouth.
P331: Do NOT induce vomiting.
P332+P317: If skin irritation occurs: Get medical help.
P362+P364: Take off contaminated clothing and wash it before reuse.
P370+P378: In case of fire: Use water spray, foam or dry chemical powder to extinguish.
P391: Collect spillage.
P403+P235: Store in a well-ventilated place. Keep cool.
P405: Store locked up.
P501: Dispose of contents/container to suitable landfill in accordance with local regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS:

Substance / Mixture: Mixture

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Composition:

Chemical name	CAS No.	Concentration	GHS Classification
Temephos	3383-96-8	50 % (m/v)	Acute Tox. 4(oral) (H302) Acute Tox. 3 (dermal) (H311) Aquatic Acute 1 (H400)
Blend of alkylsulphonate and polyalkylene glycol ether	Mixture	< 20 % (m/v)	Flammable Liquid 3 (H226) Eye Dam. 1 (H318) Skin Irrit. 2 (H315) STOT SE 3 (H335) STOT SE 3 (H336) Aquatic Chronic 3 (H412)
Aromatic hydrocarbon solvent	64742-95-6	< 50 % (m/v)	Flammable Liquid 3 (H226) Acute Tox. 4 (inhalation) (H332) Aspiration hazard 2 (H305) Skin Irrit. 3 (H316) Eye Irrit. 2B (H320) Aquatic Chronic 3 (H412)

4. FIRST AID MEASURES:

Inhalation: Remove patient from source of poisoning to a well-ventilated area and keep comfortable for breathing. If necessary, administer artificial respiration and oxygen.

Skin contact: Remove contaminated clothing and rinse contaminated body area thoroughly with plenty of soap and water. Do NOT rub skin.

Eye contact: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion: Get emergency medical help immediately. Do NOT induce vomiting. Do not apply direct mouth to mouth respiration. Never give anything by mouth to an unconscious person.

NOTE TO PHYSICIAN:

Treat symptomatically and supportively. Administer Atropine sulphate, intravenously (1 to 4 mg) every 5 to 10 minutes until signs of atropinisation, (dry flushed skin and tachycardia); 2-PAM 50 mg/kg up to total dose of 1 to 2 g or two thirds of this dose of Protopam. Repeat oximes if necessary. Do NOT give morphine.

SEEK MEDICAL ADVICE PROMPTLY AND SHOW THIS SDS TO A MEDICAL PRACTITIONER.

Symptoms of human poisoning:

Headache, fatigue, faintness, giddiness, excessive sweating, nausea, abdominal pains, vomiting diarrhoea, tightness of the chest, anxiety, blurred vision, muscle twitching beginning in the eyelids and tongue, small pupils, respiratory distress, convulsions, coma in extreme cases.

5. FIRE FIGHTING MEASURES:

Suitable Extinguishing Media: Use dry chemical for small fires and water spray or foam for large fires.

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Unsuitable Extinguishing Media: Carbon dioxide and high-volume water jet. Use a water jet only to cool heated containers.

Specific Hazards: Product decomposes in a fire to emit carbon monoxide, carbon dioxide, sulfur oxides and phosphorus oxides.

Special Fire-fighting Procedures: Remove spectators from surrounding area. Isolate the fire area and evacuate all personnel downwind of the fire. Fight fire from maximum distance. Remain upwind of fire. Avoid inhaling hazardous vapours and fumes from burning materials. Remove containers from fire area if possible and without risk. Do not use high volume water jet, due to contamination risk. Do not scatter burning material. Water can be used to cool unaffected containers but must be contained for later disposal. Contain fire control agents for later disposal and do not allow to reach sewage or effluent systems.

Personal Protective Equipment: Wear NIOSH / MSHA approved self-contained breathing apparatus and full protective equipment to prevent contact with skin and eyes.

6. ACCIDENTAL RELEASE MEASURES:

Personal precautions: Avoid contact with eyes. Avoid breathing fume, vapours or spray. Ventilate area of spill or leak especially in contained areas. Use personal protective clothing.

Protective equipment: As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).

Emergency procedures: Alert firefighting personnel and evacuate unprotected personnel.

Environmental precautions: Prevent spilled product from entering sewers, waterways or ground water.

Methods and Materials for containment: Contain spilled product by diking area with sand or earth.

Methods and Materials for clean-up: Soak up spillage with dry sand, shovel up carefully and place the material in a clean, dry and sealable container. Label container with the contents and dispose of as for toxic waste in accordance with local/national regulations. DO NOT burn. To decontaminate the spill area, tools and equipment, wash with water and suitable detergent. Collect wash water and add to the drums already collected. Do not flush spilled material or wash water into drains or waterways.

7. HANDLING AND STORAGE:

Handling:

Precautions for safe handling: Harmful if swallowed, in contact with skin or when inhaled.

May be harmful if swallowed and enters airways. Avoid breathing fume, vapours or spray. Ensure adequate ventilation during handling and use. Do not handle broken packages without protective equipment. Immediately clean up spills that occur during handling. Keep containers closed when not in use. In the case of contact with the product referred to First Aid Measures – Section 4.

General occupational hygiene: Practice good hygiene when using this material. Avoid contact with eyes. Wash hands before eating, drinking, chewing gum, smoking, using the toilet or applying cosmetics. Worker should shower at the end of each workday. Launder all clothing before it is re-used.

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Storage:

Conditions for safe storage: Keep under lock and key and out of reach of unauthorised persons, children and animals. Store in its original, labelled container, tightly closed in a dry, cool and well-ventilated area. Do not store near heat, open flame, sources of ignition or hot surfaces. Not to be stored next to foodstuffs, feed and water supplies. Avoid cross contamination with other pesticides and fertilizers.

Incompatible substances and mixtures: Incompatible with strong acids, strong bases and strong oxidizing agents.

Packaging material: Fluorinated HDPE plastic bottles.

8. EXPOSURE CONTROL AND PERSONAL PROTECTION:

Permissible concentration:

Component	Exposure limit	Type of exposure limit	Source
Temephos (tech)	10 mg/m ³ (Total dust)	Up to 10-hour TWA (NIOSH REL)	OSHA Annotated Table Z-1
	5 mg/m ³ (Respirable fraction)		

Engineering controls: It is essential to provide adequate ventilation. The measures appropriate for a particular worksite depend on how this material is used and on the extend of exposure.

Local exhaust: Provide general or local exhaust ventilation systems to maintain airborne concentrations below RELs or other specified exposure limits. Local exhaust ventilation systems are preferred. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire and other applicable regulations.

Personal Protective Equipment:

Respiratory protection: For most well-ventilated conditions, no respiratory protection should be needed. If used in poorly ventilated area, wear an approved air-purifying respirator equipped with organic vapour cartridges.

Hand/skin protection: The use of chemically protective rubber gloves is recommended to prevent against skin contact. Wear coveralls to prevent skin contact. A chemical resistant apron is required if there is a risk of spillage or splashing.

Eye protection: Safety glasses should be worn whenever working with chemicals. Goggles or face shield are required if there is a chance of splashing.

Emergency eye wash: Where there is any possibility that an employee's eyes may be exposed to this substance, the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance: A clear brown liquid.

Odour: Strong chemical odour.

Odour threshold: Not available.

pH (1% aqueous dilution): Not available.

Melting point: Not available.

Freezing point: Not available.

Boiling point: Not available.

Flash point: 49 °C

Flammability: Flammable.

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Upper / lower explosion limits: Not available.
Vapour pressure (mm Hg): Not available.
Relative vapour density: Not available.
Density / relative density: Not available.
Solubility: Product is emulsifiable in water.
n-octanol / water partition coefficient: Not available.
Auto-ignition temperature: Not available.
Decomposition temperature: Not available.
Viscosity: Not available.

10. STABILITY AND REACTIVITY:

Chemical stability: The product is stable for two years at ambient temperature and pressure, under normal storage and handling conditions. Avoid storage under extreme temperatures and conditions. Store below 50 °C, preferably below 30 °C and not for prolonged periods in direct sunlight.

Reactivity: None known

Possibility of hazardous reactions: Unlikely to occur.

Conditions to avoid: Extreme heat or exposure to flames.

Incompatible materials: Acids, strong oxidants and halogens.

Hazardous decomposition products: Temephos decomposes in a fire to emit fumes of PO_x and SO_x.

11. TOXICOLOGICAL INFORMATION:**ACUTE TOXICITY:**

Calculated according to GHS guidelines:

Oral LD₅₀:	680 mg/kg (rat)
Dermal LD₅₀:	1290 mg/kg (rabbit)
Inhalation LC₅₀:	2,28 mg/dl/4 hr (rat)

Skin Irritation / Corrosion:	Causes mild skin irritation.
Eye Damage / Irritation:	Causes serious eye damage.
Skin Sensitization:	Product is not a skin sensitizer.
Respiratory Sensitization:	Not calculated.
Germ Cell Mutagenicity:	Not calculated.
Carcinogenicity:	Not calculated.
Reproductive Toxicity:	Not calculated.
STOT – Single Exposure:	May cause respiratory irritation. May cause drowsiness or dizziness.
STOT – Repeat Exposure:	Not calculated.
Aspiration Hazard:	May be harmful if swallowed and enters airways.
Chronic Effects:	None known.

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POTENTIAL ADVERSE EFFECTS:

Possible symptoms of organophosphate poisoning may occur, such as headache, fatigue, faintness, giddiness, excessive sweating, nausea, abdominal pains, vomiting diarrhoea, tightness of the chest, anxiety, blurred vision, muscle twitching beginning in the eyelids and tongue, small pupils, respiratory distress, convulsions, coma.

12. ECOLOGICAL INFORMATION:

This product is very toxic to aquatic life and is considered a marine pollutant.

ECOTOXICITY DATA: (for Temephos technical material)

Fish:

LC ₅₀ (96 h)	Bluegill sunfish	21,8 mg/l
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Aquatic invertebrate:

LC ₅₀ (96 h)	<i>Gammarus lacustris</i>	0,08 mg/kg
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Birds:

Oral LD ₅₀	Japanese quail	35 - 85 mg/kg
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Bees:

Temephos is highly toxic to bees.

Contact LC ₅₀	1.55 µg/bee
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ENVIRONMENTAL EFFECTS: (for Temephos technical material)

Plants: In plants, oxidation to the sulfoxide and to a lesser extent, to the sulfone and the mono- and di-orthophosphates. Further degradation proceeds very slowly.

Persistence and degradability: Temephos has low to moderate persistence in the environment.

Bio-accumulative potential: Temephos does not bio-accumulate in the environment.

Mobility in soil: Temephos has a high affinity for soils. A half-life of 30 days has been estimated.

Other adverse effects: None known.

13. DISPOSAL CONSIDERATIONS:

Waste: Open burning or burning of this pesticide is prohibited. Waste resulting from the use of this pesticide cannot be reused or re-processed. Never pour untreated waste or surplus product into public sewers or where there is any danger of run-off or seepage into water systems. Do not contaminate rivers, dams or any other water source with the product or used containers. Comply with local regulations applying to waste disposal. The product may be taken to a registered waste disposal site.

Container: Emptied containers retain product residues and must be triple rinsed before disposal. Once all the pesticide formulation is decanted from the bottle, add one quarter of the container volume fresh water, screw the cap on and shake for thirty seconds. Pour the rinsate into the spray can. Repeat rinsing twice. Rinse the cap once with clean water. Puncture the triple rinsed container and dispose of via an approved collector or recycler (www.croplife.co.za). Do not bury,

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burn or donate the empty containers to any other parties that may use it as a container for food or beverages. Observe all labelled safeguards until container is destroyed.

14. TRANSPORT INFORMATION:

UN Number: 1993
Road Transport ADR / ORD:
Class: 3
Packaging group: III
UN Proper Shipping Name: Flammable liquid, N.O.S (Temephos 500 g/l)

Maritime Transport IMDG / IMO:

Class: 3
Packaging group: III
UN Proper Shipping Name: Flammable liquid, N.O.S (Temephos 500 g/l)
Marine pollutant: Yes

Air Transport IATA / ICAO:

Class: 3
Packaging group: III
UN Proper Shipping Name: Flammable liquid, N.O.S (Temephos 500 g/l)

Special / Environmental Precautions: Wedge drums tightly to avoid movement.

Transport in bulk: Refer to MARPOL 73/78, Annex II and the IBC code.

15. REGULATORY INFORMATION:**Safety, health and environmental regulations / legislation for the mixture:**

OSHA 2021 Regulations for Hazardous Chemical Substances.

Relevant information regarding the restrictions: None.

EU Regulation: Regulation EC1272/2008 (EU-GHS/CLP).

Other national regulations: None.

Chemical Safety Assessment carried out? No.

16. OTHER INFORMATION:

Packaging: Packed in 500 ml and 1 l plastic containers and labelled according to South African regulations and guidelines.

Other hazard statements, abbreviations and explanations:

H311: Harmful in contact with skin.

H315: Causes skin irritation.

H320: Causes eye irritation.

ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road.

IATA: International Air Transport Association.

IBC: International Bulk Chemical.

ICAO: International Civil Aviation Organization.

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IMDG: International Maritime Dangerous Goods.

IMO: International Maritime Organization.

LD₅₀ value: The median lethal dose or the amount of a toxic agent that is sufficient to kill 50 percent of a population within a certain period of time.

NIOSH: National Institute for Occupational Safety and Health.

OEL/RL: Occupational exposure limit-recommended limit.

PEL: Permissible exposure limits.

TWA: Time-weighted average – the average exposure over a specified period, usually a nominal eight hours.

ST/STEL: Short-term exposure limits.

STOT: Single target organ toxicity.

Disclaimer:

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The information on this sheet is not a specification; it does not guarantee specific properties. Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. All information is given in good faith but without guarantee in respect of accuracy, and no responsibility is accepted for errors and omissions or the consequence thereof. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

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