

# Safety Data Sheet

SPAR 1% SG

Revision No: SDS-01  
 Date of Issue: 19-July-2016  
 Replaces all previous editions

## 1. Identification of the substance / preparation and company

Product Name : Spar 1% SG  
 Active Ingredient : Temephos  
 IUPAC Chemical Name : *O,O,O',O'*-ztetramethyl *O,O'*-thiodi-*p*-phenylene bis(phosphorothioate)  
 Empirical Formula : C<sub>16</sub>H<sub>20</sub>O<sub>6</sub>P<sub>2</sub>S<sub>3</sub>  
 Molecular Mass : 466.5  
 Chemical Family : Phenylpyrazole  
 Product Type : Insecticide  
 Company Name and Address : Asiatic Agricultural Industries Pte Ltd  
 150 Gul Circle, Singapore 629607  
 Contact Number : Telephone: 65 6572 4000  
 Telefax: 65 6862 2268  
 E-mail: aaipl@asiaticind.com.sg  
 Emergency : Telephone: 65 6572 4042 (office hour)  
 Telephone: 65 6572 4056 (off-office hour)  
 Contact Person : Mr. Lawrence Chan / Mr. Chan Chek Chee

## 2. Hazard Identification

### GHS Classification

<u>Hazard Class</u>	<u>Hazard Category</u>
<b>Physical Hazards</b>	: Not classified

### Health Hazards

Acute toxicity	
Oral	: Not classified
Dermal	: Not classified
Inhalation	: Not classified
Skin Corrosion/Irritation	: Not classified
Serious Eye Damage/ Eye Irritation	: Not classified
Respiratory or Skin Sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive Toxicity	: Not classified
Specific Target Organ toxicity- single exposure	: Not classified
Specific target organ toxicity- repeated exposure	: Not classified
Aspiration Hazard	: Not classified

### Environmental Hazard

Acute Toxicity to the aquatic environment	: Not classified
Chronic Toxicity to the aquatic environment	: Not classified

### GHS Label Elements

Pictogram and symbol : Not Applicable

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Signal word : Not Applicable

Hazard Statement : Not Applicable

**Other Hazards which do not result in classification:**

Primary Hazards : None known

Specific Hazards : None known

### 3. Composition / Information on ingredients

Formulation : Granule

Components	Synonyms/ Other Names	Chemical Formula	Content , w/w	CAS number
Temephos	<i>O,O,O',O'</i> -ztetramethyl <i>O,O'</i> -thiodi- <i>p</i> -phenylene bis(phosphorothioate)	C <sub>16</sub> H <sub>20</sub> O <sub>6</sub> P <sub>2</sub> S <sub>3</sub>	1%	3383-96-8

### 4. First Aid Measures

Inhalation : Remove victim to fresh air and keep at rest in a comfortable breathing position. If rapid recovery does not occur, obtain medical attention and administer oxygen if respiratory distress develops.

Skin Contact : Remove contaminated clothing. Wash skin thoroughly with soap and water. If persistent irritation occurs, seek medical attention.

Eye Contact : Flush eyes with plenty of water or normal saline. If possible, remove contact lenses. If persistent irritation occurs, seek medical attention.

Ingestion : Do not induce vomiting; never give anything by mouth to an unconscious person. Seek medical advice immediately and show container label or this data sheet if possible.

Most important symptoms/effects, acute and delayed. : Prolonged and excessive exposure to this product may cause over stimulation of the nervous system causing nausea, dizziness, confusion, and damage to the nervous system can occur

Indication of immediate medical attention and special treatment needed. : Treat symptomatically. In moderately severe poisoning administer atropine sulphate 0.4 - 2.0 mg repeated every 15 minutes until atropinization is achieved. In case of severe poisoning (expressed by respiratory desperation, muscle weakness and twitching) give parliboxime (protopam-ayerst, 2-PAM) 1.0 g intravenously at no more than 0.5 g/min.

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Protection of First-aid providers : Persons attending to the patient must avoid direct contact with heavily contaminated objects. Rubber gloves and protective clothing must be worn during decontamination of patient or area.

## 5. Fire Fighting Measures

Suitable extinguishing media : Use alcohol foam, carbon dioxide, dry chemical, soft stream water fog only if necessary. Contain all run-offs.

Unsuitable extinguishing media : Do not scatter spilled material with high-pressure water stream.

Special hazards arising from substance or mixture : Avoid breathing hazardous vapors, keep upwind.

Advise for fire-fighters : Wear a self-contained respiratory apparatus; wear full fire-fighting turn-out gear. Fire exposed containers can build up pressure and should be kept cool with water spray if possible. Explosive vapor could form from ruptured containers.

Additional Information : Approach from upwind to avoid hazardous vapors and decomposition products.

## 6. Accidental Release Measures

Personal precautions Protective equipment and emergency procedures : Avoid contact with skin and eyes. No smoking, flames or fires in hazard area. Keep unnecessary people away. Isolate hazard area and deny entry. Wear protective clothing and personal protective equipment as prescribed in section 8.

Environmental precautions : Do not release to the environment in large amount.

Methods and materials for containment and clean-up : Use a clean shovel and place the material into a clean, dry container; cover and remove the container from the spill area. Collect scattered material and add to the drums of waste already collected. Repeat if necessary. Dispose off drummed waste according to the method outlined in Section 13 "Disposal Considerations".

## 7. Handling and Storage

Precautions for Safe Handling : When handling chemical do not eat, drink or smoke. Wash hands and exposed skin before meals and after work.

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Conditions for safe storage, including any incompatibilities. : Store under normal atmospheric conditions in closed containers. Maintain a well-ventilated storage area which is relatively free from temperature fluctuations. All chemical must be kept out of reach of children, pets, live stock and people. Pesticide should be stored in a locked, secure place, such as a separate building or storage room. Incompatible with plain mild steel container.

## 8. Exposure Control / Personal Protection

Control Parameters/ Occupational Exposure Limits : OSHA Standards: PEL 15mg/m<sup>3</sup> total dust, TWA 5mg/m<sup>3</sup> respirable fraction (8hr)  
NIOSH Standards: REL 10mg/m<sup>3</sup> total dust (10hr), TWA 5mg/m<sup>3</sup> respirable fraction (10hr)  
ACGIH Standards: TLV-TWA 10mg/m<sup>3</sup>(8hr)

Appropriate engineering control measures : Local exhaust ventilation may be necessary to control any air contamination to within their TLVs during the use of this product. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Personal protective equipment :-

Respiratory protection : When handling in a non-ventilated area, use a respirator with an organic vapor removing cartridge with a prefilter approval for pesticides.

Hand protection : Wear chemical resistant gloves such as nitrile, butyl rubber, barrier laminate or viton.

Eye protection : Wear safety glasses or goggles.

Skin protection : Wear long-sleeved coveralls worn over a minimum of short-sleeved shirt and short pants. Wear chemical resistant footwear plus socks.

Personal hygiene : Clean water should be available for washing in case of eye or skin contamination. Wash skin prior to eating, drinking, using tobacco or using the toilet. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product. Shower at the end of the workday.

## 9. Physical and Chemical Properties

Appearance : Solid  
Color : Grey  
Odor : None  
Odor Threshold : Not Applicable

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pH	: 6.5 - 9.5 (1% w/w in water at 25 °C)
Melting point/Freezing point	: 30.0 - 30.5 °C (technical Temephos)
Initial Boiling point and Boiling range	: Temephos decomposes before boiling
Flash Point	: Not Applicable
Evaporation Rate	: Not Applicable
Flammability (solid,gas)	: Not Applicable
Upper/Lower Flammability or explosive limits	: Not Applicable
Vapor pressure	: $2.5 \times 10^{-6}$ pa @ 25 °C (technical)
Vapor Density	: Not Applicable
Specific gravity	: 1.46 + 0.20 @ 20 °C
Solubility (ies)	: 0.04 mg/L at 20 °C (technical Temephos)
Partition Coefficient, n-octanol/water	: log P KOW = 4.91 at 25°C, (technical Temephos)
Auto ignition temperature	: Not available
Decomposition temperature	: 120 - 125 °C (technical Temephos)
Viscosity	: Not Available

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## 10. Stability and Reactivity

Reactivity	: No data available.
Chemical stability	: Stable under normal conditions.
Possibility of Hazardous Reactions	: No data available.
Conditions to avoid	: Open flame, melting areas or other high temperature sources which might induce thermal decomposition.
Incompatibility with other material	: Strong alkalis, amines and oxidizers.
Hazardous decomposition products	: Decomposition products may be hazardous.

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## 11. Toxicological Information

Acute toxicity :-	
Oral LD <sub>50</sub> - rat	: >5000 mg/kg
Dermal LD <sub>50</sub> - rat	: >5000 mg/kg
Inhalation LC <sub>50</sub> rat	: >5 mg/l (calculated)
Eye irritation - rabbit	: Non-irritating
Skin irritation - rabbit	: Non-irritating
Sensitization-guinea pig	: Non-sensitizer.
Germ cell mutagenicity	: Non mutagenic
Carcinogenicity	: Not carcinogenic
Reproductive Toxicity	: Does not cause reproductive toxicity.
Specific Target Organ toxicity-single exposure	: Technical Temephos may cause damage effects on the nervous system and liver

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Specific Target Organ : Technical Temephos may cause damage effects on toxicity-repeated exposure  
Aspiration Hazard : Not known

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## 12. Ecological Information

Toxicity : -  
Aquatic toxicity : LC<sub>50</sub> (96 h) for rainbow trout 9.6 mg/l; (24 h) for rainbow trout 31.8 mg/l(technical Temephos)  
Terrestrial toxicity : LC<sub>50</sub> (5 d) for mallard ducks 1200, ring-necked pheasants 170 mg/kg diet  
Persistence and degradability : Temephos has a low to moderate persistence.  
Bio-accumulative potential : Temephos, being a hydrophobic chemical and thus more likely to bind to fatty substances, has the potential to bioconcentrate. Temephos bioaccumulated in fish exposed to temephos for 28 days. However, more than 75% of the temephos was eliminated after 14-days of non-exposure.  
Mobility in soil : Having a high affinity for soil, Temephos is immobile.  
Other adverse effects : Not available.

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## 13. Disposal Considerations

Product Waste Disposal : Pesticide wastes are toxic and hazardous. Dispose of in accordance with local regulations. Do not discharge or pour into soil, drainage system or bodies of water.  
Container Disposal : Dispose of according to local regulations.

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## 14. Transport Information

**Not classified as dangerous good according to UN IMDG and ICAO/IATA transport regulations**

Road/Rail transport :-

Class : Not regulated  
Subsidiary Risk : Not regulated  
UN number : Not regulated  
Proper shipping name : Not regulated

Maritime transport :-

Class : Not regulated  
Subsidiary Risk : Not regulated  
UN number : Not regulated  
Proper shipping name : Not regulated  
Packing group : Not regulated  
Marine pollutant : Not regulated

Air transport :-

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Class : Not regulated  
Subsidiary Risk : Not regulated  
UN number : Not regulated  
Proper shipping name : Not regulated  
Packing group : Not regulated

## 15. Regulatory Information

### Risk phrases

R22 : Harmful if swallowed.  
R52 : Harmful to aquatic organisms.

### Safety phrases

S2 : Keep out of the reach of children.  
S28 : After contact with skin, wash immediately with plenty of water.  
S36/37 : Wear suitable protective clothing and gloves.  
S45 : In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
S61 : Avoid release to the environment. Refer to special instructions/safety data sheets.

## 16. Other Information

This Safety Data Sheet was made in accordance to the guidelines presented in the *Globally Harmonized System of Classification and Labelling of Chemicals (GHS)*.

Disclaimer : This Safety Data Sheet applies to the product conforming to the specifications of Asiatic Agricultural Industries Pte Ltd. The information and data contained herein are believed to be correct to the best of our knowledge but cannot be considered as exhaustive to be construed for warranty and quality purposes. This safety data sheet is intended to provide guidance on safe handling, use, processing, transportation, storage and disposal of the product. Users are still advised to consult relevant local laws and legislations concerning the use, possession and handling of this product.