

Safety Data Sheet according to WHS Regulations

Printing date 16.04.2018

Version number 1

Revision: 16.04.2018

1 Identification

- **Product identifier**
- **Trade name:** Potassium thiosulphate solution
- **Article number:** DK057
- **CAS Number:**
10294-66-3
- **EC number:**
233-666-8
- **Relevant identified uses of the substance or mixture and uses advised against**
For use in the agricultural sector.
- **Technical function** Fertigation
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Company: Omnia Specialities Australia Pty Ltd
Address: Tramway Road
MORWELL VIC 3840
Telephone Number: +61-3 5133 9118
Facsimile Number: +61-3 5133 9114
- **Further information obtainable from:** Rene.Mommers@omnia.net.au
- **Emergency telephone number:**
+61 3 513 39118
+61 408 375135

2 Hazard(s) Identification

- **Classification of the substance or mixture**



Acute Tox. 4 H332 Harmful if inhaled.
Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2A H319 Causes serious eye irritation.
STOT SE 3 H335 May cause respiratory irritation.

- **Label elements**
- **GHS label elements**
The substance is classified and labelled according to the Globally Harmonised System (GHS).
- **Hazard pictograms**



GHS07

- **Signal word** Warning
- **Hazard statements**
Harmful if inhaled.
Causes skin irritation.
Causes serious eye irritation.
May cause respiratory irritation.

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- **Precautionary statements**

Avoid breathing dust/fume/gas/mist/vapours/spray.

Wear protective gloves / eye protection / face protection.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Specific treatment (see on this label).

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

3 Composition and Information on Ingredients

- **Chemical characterisation: Substances**

- **CAS No. Description**

10294-66-3 Potassium thiosulphate solution

- **Identification number(s)**

- **EC number:** 233-666-8

4 First Aid Measures

- **Description of first aid measures**

- **General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

- **After inhalation:**

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

Remove to fresh air. In case of unconsciousness place patient stably in side position for transportation.

- **After skin contact:**

Immediately wash with water and soap and rinse thoroughly. Remove contaminated clothing. Flush affected areas with plenty of water and soap.

- **After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

- **After swallowing:**

Call for a doctor immediately. Do not induce vomiting. Rinse mouth with water (only if person is conscious).

- **Information for doctor:**

Treat supportive and symptomatically

Anticipate seizures and treat if necessary

Monitor for shock and treat

- **Most important symptoms and effects, both acute and delayed**

Disorientation

Nausea

Dizziness

Headache

Vomiting

Acidosis

Breathing difficulty

- **Indication of any immediate medical attention and special treatment needed**

Convulsions

Collapse

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5 Fire Fighting Measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
Use fire extinguishing methods suitable to surrounding conditions. Water spray jet, foam. Dry fire-extinguishing substance.
- **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
Because the product is a solution, it is not combustable. However if it is dried out in a fire it will decompose to release sulphur oxides gasses and metal oxide fumes.
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water. Should not be released into the environment.
- **Methods and material for containment and cleaning up:**
Prevent further spreading by damming-in.
Collect the product mechanically (vacuum). Deposit in recipient for recuperation.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and Storage

- **Handling:**
- **Precautions for safe handling**
Do not eat, drink or smoke in the work place.
Wash hands before breaks and after handling the product.
Ensure good ventilation/exhaustion at the workplace.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect from heat.
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities** Do not store with combustables
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Observe the rules usually applicable when handling chemicals.
- **Information about storage in one common storage facility:**
Store away from foodstuffs.
Store away from flammable substances.
- **Further information about storage conditions:**
Keep container tightly sealed in a dry well-ventilated place.
Protect from heat and direct sunlight.

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· Specific end use(s) Agricultural

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8 Exposure controls and personal protection

· **Additional information about design of technical facilities:**

Ensure eyewash stations and safety showers are close to the workstation location.

· **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:** Not required.

· **Additional information:** The lists valid during the making were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Do not ingest

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

· **Body protection:** Protective work clothing

9 Physical and Chemical Properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:

Solution

Colour:

Colourless

· **Odour:**

Sulfurous

· **Odour threshold:**

Not determined.

· **pH-value:**

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· Change in condition	
Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	106 °C
· Flash point:	Not applicable.
· Flammability (solid, gas):	Not applicable.
· Ignition temperature:	
Decomposition temperature:	Not determined.
· Auto-ignition temperature:	Not determined.
· Explosive properties:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapour pressure:	Not determined.
· Density at 20 °C:	1.47 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Fully miscible.
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Other information	No further relevant information available.

10 Stability and Reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** Incompatibles and extreme temperatures
- **Incompatible materials:**
 - Strong oxidizing agents
 - Acids
- **Hazardous decomposition products:** Sulphur oxides (SO_x)

11 Toxicological Information

- **Information on toxicological effects**
- **Acute toxicity**

· **LD/LC50 values relevant for classification:**

Oral	LD50	> 5,000 mg/kg (rat)
Dermal	LD50	> 2,000 mg/kg (rabbit)
Inhalative	LC50 4 h	> 2.6 mg/l (rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Irritant to skin and mucous membranes.
- **Serious eye damage/irritation** Strong eye irritant

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· **Respiratory or skin sensitisation** Sensitisation possible through inhalation.

· **Experience with humans:**

Potassium Thiosulfate is a liquid substance used for producing fertilizers. In this case series, we present five patients who have been exposed to potassium thiosulfate inhalation. Three of them were intubated in the scene by paramedics because of confusion and respiratory depression. They had refractory status epilepticus. The other two were exposed during trying to help the others for getting out, they presented to ED with nausea, vomiting and headache. One of the intubated patients died on the 4th day of his follow-up at ICU. Others were sent home after few days with no complication. Potassium thiosulfate is not a substance documented for poisoning and it is assumed to be a safe and stable solution. Although, it was assumed to be a safe substance there are risks of metabolic acidosis, resistant generalized seizures, and death due to disturbance of oxidative reactions with potassium thiosulfate.

12 Ecological Information

· **Toxicity**

· **Aquatic toxicity:**

LC50 96 hours	>1,000 mg/L (Pimephales promelas (Fathead Minnow))
	89 mg/L (Prawn)

· **Persistence and degradability** No further relevant information available.

· **Behaviour in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** Mobile and may leach into waterways

· **Additional ecological information:**

· **General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**

· **Recommendation**

Disposal according to local regulations.

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Contain material in dyke and pump into container for reuse.

· **Uncleaned packaging:**

· **Recommendation:** Disposal must be made according to official regulations.

· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

· **UN-Number**

· **ADG, ADN, IMDG, IATA**

Void

· **UN proper shipping name**

· **ADG, ADN, IMDG, IATA**

Void

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· Transport hazard class(es)	
· ADG, ADN, IMDG, IATA	
· Class	Void
· Packing group	
· ADG, IMDG, IATA	Void
· Environmental hazards:	Not applicable.
· Special precautions for user	Not applicable.
· ERG No.	None
· Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· UN "Model Regulation":	Void

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Australian Inventory of Chemical Substances** Substance is not listed.
- **Standard for the Uniform Scheduling of Medicines and Poisons** Substance is not listed.
- **GHS label elements**
The substance is classified and labelled according to the Globally Harmonised System (GHS).
- **Hazard pictograms**



GHS07

- **Signal word** Warning
- **Hazard statements**
Harmful if inhaled.
Causes skin irritation.
Causes serious eye irritation.
May cause respiratory irritation.
- **Precautionary statements**
Avoid breathing dust/fume/gas/mist/vapours/spray.
Wear protective gloves / eye protection / face protection.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Specific treatment (see on this label).
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent

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LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

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