

Based upon Regulation (EC) No. 1907/2006, as amended by Regulation (EC) No. 453/2010
A safety data sheet is not required for this product under Article 31 of REACH. This SDS has been created on a voluntary basis.

KTS[®], potassium thiosulphate solution

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier:

Product name	: KTS [®] , potassium thiosulphate solution
Synonyms	: potassium thiosulphate, conc=50%, aqueous solution; thiosulfuric acid (H ₂ S ₂ O ₃), dipotassium salt, conc=50%, aqueous solution; thiosulfuric acid, dipotassium salt, conc=50%, aqueous solution; potassium hyposulfite, conc=50%, aqueous solution; potassium thiosulfate, conc=50%, aqueous solution
Registration number REACH	: Not applicable (mixture)
Product type REACH	: Mixture
CAS number	: 10294-66-3
EC number	: 233-666-8
Molecular mass	: 190.32 g/mol
Formula	: K ₂ S ₂ O ₃

1.2 Relevant identified uses of the substance or mixture and uses advised against:

1.2.1 Relevant identified uses

Fertilizer

1.2.2 Uses advised against

No uses advised against known

1.3 Details of the supplier of the safety data sheet:

Supplier of the safety data sheet

TESSENDERLO CHEMIE N.V.
Troonstraat 130
B-1050 Brussel
☎ +32 13 61 22 11
✉ +32 13 67 37 49
sds.responsible@tessenderlo.com

1.4 Emergency telephone number:

24h/24h (Telephone advice: English, French, German, Dutch):
+32 14 58 45 45 (BIG)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture:

2.1.1 Classification according to Regulation EC No 1272/2008

Not classified as dangerous according to the criteria of Regulation (EC) No 1272/2008

2.1.2 Classification according to Directive 67/548/EEC-1999/45/EC

Not classified as dangerous according to the criteria of Directive(s) 67/548/EEC and/or 1999/45/EC

2.2 Label elements:

Labelling according to Regulation EC No 1272/2008 (CLP)

Not classified as dangerous according to the criteria of Regulation (EC) No 1272/2008

2.3 Other hazards:

SECTION 3: Composition/information on ingredients

3.1 Substances:

Not applicable

3.2 Mixtures:

This mixture does not contain any notifiable substances

KTS[®], potassium thiosulphate solution

Name (REACH Registration No)	CAS No EC No	Conc. (C)	Classification according to DSD/DPD	Classification according to CLP	Note	Remark
potassium thiosulphate (01-2119537328-35)	10294-66-3 233-666-8	C=50 %				Constituent

SECTION 4: First aid measures

4.1 Description of first aid measures:

General:

If you feel unwell, seek medical advice.

After inhalation:

Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

After skin contact:

Rinse with water. Take victim to a doctor if irritation persists.

After eye contact:

Rinse with water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.

After ingestion:

Rinse mouth with water. Consult a doctor/medical service if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed:

4.2.1 Acute symptoms

After inhalation:

No effects known.

After skin contact:

No effects known.

After eye contact:

No effects known.

After ingestion:

AFTER ABSORPTION OF HIGH QUANTITIES: Gastrointestinal complaints. Diarrhoea.

4.2.2 Delayed symptoms

No effects known.

4.3 Indication of any immediate medical attention and special treatment needed:

If applicable and available it will be listed below.

SECTION 5: Firefighting measures

5.1 Extinguishing media:

5.1.1 Suitable extinguishing media:

Adapt extinguishing media to the environment.

5.1.2 Unsuitable extinguishing media:

No unsuitable extinguishing media known.

5.2 Special hazards arising from the substance or mixture:

On heating/burning: release of toxic and corrosive gases/vapours (sulphur oxides).

5.3 Advice for firefighters:

5.3.1 Instructions:

Dilute toxic gases with water spray.

5.3.2 Special protective equipment for fire-fighters:

Gloves. Safety glasses. Protective clothing. Heat/fire exposure: compressed air/oxygen apparatus.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

No naked flames.

6.1.1 Protective equipment for non-emergency personnel

See heading 8.2

6.1.2 Protective equipment for emergency responders

Gloves. Safety glasses. Protective clothing.

Suitable protective clothing

See heading 8.2

6.2 Environmental precautions:

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Date of revision: 2013-10-24

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Contain released substance, pump into suitable containers. Plug the leak, cut off the supply.

6.3 Methods and material for containment and cleaning up:

Take up liquid spill into inert absorbent material, e.g.: sand/earth. Scoop absorbed substance into closing containers. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

6.4 Reference to other sections:

See heading 13.

SECTION 7: Handling and storage

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

7.1 Precautions for safe handling:

Keep away from naked flames/heat. Observe normal hygiene standards. Keep container tightly closed.

7.2 Conditions for safe storage, including any incompatibilities:

7.2.1 Safe storage requirements:

Keep container in a well-ventilated place. Keep out of direct sunlight. Meet the legal requirements.

7.2.2 Keep away from:

Heat sources, (strong) acids.

7.2.3 Suitable packaging material:

Stainless steel, polypropylene, HDPE.

7.2.4 Non suitable packaging material:

Lead.

7.3 Specific end use(s):

If applicable and available, exposure scenarios are attached in annex. See information supplied by the manufacturer.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters:

8.1.1 Occupational exposure

a) Occupational exposure limit values

If limit values are applicable and available these will be listed below.

b) National biological limit values

If limit values are applicable and available these will be listed below.

8.1.2 Sampling methods

Product name	Test	Number
No data available		

8.1.3 Applicable limit values when using the substance or mixture as intended

If limit values are applicable and available these will be listed below.

8.1.4 DNEL/PNEC values

DNEL - Workers

potassium thiosulphate

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	449 mg/m ³	

DNEL - General population

potassium thiosulphate

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	133 mg/m ³	
	Long-term systemic effects oral	17 mg/kg bw/day	

PNEC

potassium thiosulphate

Compartments	Value	Remark
Fresh water	1 mg/l	
Marine water	0.1 mg/l	
STP	128.3 mg/l	

8.1.5 Control banding

If applicable and available it will be listed below.

8.2 Exposure controls:

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

8.2.1 Appropriate engineering controls

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Keep away from naked flames/heat. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

8.2.2 Individual protection measures, such as personal protective equipment

Observe normal hygiene standards. Keep container tightly closed. Do not eat, drink or smoke during work.

a) Respiratory protection:

Respiratory protection not required in normal conditions.

b) Hand protection:

Gloves.

- materials for protective clothing (good resistance)

Neoprene.

c) Eye protection:

Safety glasses.

d) Skin protection:

Protective clothing.

8.2.3 Environmental exposure controls:

See headings 6.2, 6.3 and 13

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties:

Physical form	Liquid
Odour	Mild odour
	Unpleasant odour
Odour threshold	No data available
Colour	Colourless to light yellow
Particle size	Not applicable (liquid)
Explosion limits	Not applicable
Flammability	Non combustible
Log Kow	Not applicable (mixture)
Dynamic viscosity	No data available
Kinematic viscosity	No data available
Melting point	No data available
Boiling point	106 °C
Flash point	Not applicable
Evaporation rate	No data available
Vapour pressure	No data available
Relative vapour density	No data available
Solubility	water ; Complete
Relative density	1.5
Decomposition temperature	No data available
Auto-ignition temperature	Not applicable
Explosive properties	No chemical group associated with explosive properties
Oxidising properties	No chemical group associated with oxidising properties
pH	7.0 - 8.2 ; 50 %

Physical hazards

No physical hazard class

9.2 Other information:

Minimum ignition energy	Not applicable
Absolute density	1460 kg/m ³

SECTION 10: Stability and reactivity

10.1 Reactivity:

Substance has basic reaction.

10.2 Chemical stability:

Stable under normal conditions.

10.3 Possibility of hazardous reactions:

No data available.

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10.4 Conditions to avoid:

Keep away from naked flames/heat.

10.5 Incompatible materials:

(strong) acids, lead.

10.6 Hazardous decomposition products:

Reacts with (some) acids: release of toxic and corrosive gases/vapours (sulphur oxides). On heating/burning: release of toxic and corrosive gases/vapours (sulphur oxides).

SECTION 11: Toxicological information

11.1 Information on toxicological effects:

11.1.1 Test results

Acute toxicity

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Route of exposure	Parameter	Method	Value	Exposure time	Species	Gender	Value determination
Oral	LD50		> 5000 mg/kg		Rat		
Dermal	LD50		> 2000 mg/kg		Rabbit		

potassium thiosulphate

Route of exposure	Parameter	Method	Value	Exposure time	Species	Gender	Value determination
Oral	LD50	OECD 401	>2500 mg/kg bw		Rat	Male/female	Experimental value
Dermal	LD50	OECD 402	>2000 mg/kg bw	24 h	Rabbit	Male/female	Experimental value
Inhalation (aerosol)	LD0	OECD 403	2.6 mg/l	4 h	Rat	Male/female	Experimental value
Inhalation (aerosol)	LC50	OECD 403	>2.6 mg/l	4 h	Rat	Male/female	Experimental value

Conclusion

Not classified for acute toxicity

Corrosion/irritation

KTS[®], potassium thiosulphate solution

No (test) data on the mixture available

potassium thiosulphate

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination
Eye	Not irritating	OECD 405		1; 24; 48; 72 hours	Rabbit	Read-across
Skin	Not irritating	OECD 404	4 h	24; 48; 72 hours	Rabbit	Read-across

Conclusion

Not classified as irritating to the skin

Not classified as irritating to the respiratory system

Not classified as irritating to the eyes

Respiratory or skin sensitisation

KTS[®], potassium thiosulphate solution

No (test) data on the mixture available

potassium thiosulphate

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Gender	Value determination
Dermal (on the ears)	Not sensitizing	OECD 429			Mouse	Female	Read-across

Conclusion

Not classified as sensitizing for inhalation

Not classified as sensitizing for skin

Specific target organ toxicity

KTS[®], potassium thiosulphate solution

No (test) data on the mixture available

KTS[®], potassium thiosulphate solution

potassium thiosulphate

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Gender	Value determination
Oral (repeated exposure)	NOAEL local effects	Other	216 mg/kg bw/day			104 week(s)	Rat	Male/female	Read-across
Oral (repeated exposure)	NOAEL systemic effects	Other	1910 mg/kg bw/day			104 week(s)	Rat	Male/female	Read-across

Conclusion

Not classified for subchronic toxicity

Mutagenicity (in vitro)

KTS[®], potassium thiosulphate solution

No (test) data on the mixture available

potassium thiosulphate

Result	Method	Test substrate	Effect	Value determination
Negative with metabolic activation, negative without metabolic activation	OECD 476	Mouse (lymphoma L5178Y cells)		Read-across

Mutagenicity (in vivo)

KTS[®], potassium thiosulphate solution

No (test) data on the mixture available

Carcinogenicity

KTS[®], potassium thiosulphate solution

No (test) data on the mixture available

potassium thiosulphate

Route of exposure	Parameter	Method	Value	Exposure time	Species	Gender	Value determination	Organ	Effect
Oral (drinking water)	Dose level	Other	>2500 mg/kg bw/day	24 month(s)	Mouse	Male/female	Read-across		

Reproductive toxicity

KTS[®], potassium thiosulphate solution

No (test) data on the mixture available

potassium thiosulphate

	Parameter	Method	Value	Exposure time	Species	Gender	Effect	Organ	Value determination
Developmental toxicity	NOAEL	Other	1320 mg/kg bw/day	8 day(s)	Rat				Read-across
Effects on fertility	NOAEL (F1)	Other	1910 mg/kg bw/day	104 week(s)	Rat	Male/female			Read-across
	NOAEL local effects	Other	216 mg/kg bw/day	104 week(s)	Rat	Male/female			Read-across
	NOAEL	Other	1320 mg/kg bw/day	8 day(s)	Rat				Read-across

Conclusion CMR

Not classified for carcinogenicity

Not classified for mutagenic or genotoxic toxicity

Not classified for reprotoxic or developmental toxicity

Toxicity other effects

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No (test) data on the mixture available

Chronic effects from short and long-term exposure

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No effects known.

SECTION 12: Ecological information

12.1 Toxicity:

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	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50		> 1000 mg/l	96 h	Cyprinodon variegatus	Static system		Literature study; Solution >=50%

potassium thiosulphate

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	Other	770 mg/l	96 h	Oncorhynchus mykiss	Static system	Fresh water	Read-across; Nominal concentration
Acute toxicity invertebrates	EC50	Other	230 mg/l	48 h	Daphnia magna	Static system	Fresh water	Read-across; Nominal concentration
Toxicity algae and other aquatic plants	EC50	OECD 201	> 100 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Read-across; GLP

Judgement is based on the relevant ingredients of the mixture

Conclusion

Not harmful to fishes (LC50(96h) >1000 mg/l)

Not classified as dangerous for the environment according to the criteria of Directive 1999/45/EC

Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008

12.2 Persistence and degradability:

Biodegradability: not applicable

12.3 Bioaccumulative potential:

KTS[®], potassium thiosulphate solution

Log Kow

Method	Remark	Value	Temperature	Value determination
	Not applicable (mixture)			

potassium thiosulphate

Log Kow

Method	Remark	Value	Temperature	Value determination
	No data available			

Conclusion

Does not contain bioaccumulative component(s)

12.4 Mobility in soil:

No (test)data on mobility of the components available

12.5 Results of PBT and vPvB assessment:

The criteria of PBT and vPvB as listed in Annex XIII of Regulation (EC) No 1907/2006 do not apply to inorganic substances.

12.6 Other adverse effects:

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Global warming potential (GWP)

None of the known components is included in the list of substances which may contribute to the greenhouse effect (Regulation (EC) No 842/2006)

Ozone-depleting potential (ODP)

Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009)

SECTION 13: Disposal considerations

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

13.1 Waste treatment methods:

13.1.1 Provisions relating to waste

Waste material code (Directive 2008/98/EC, Decision 2000/0532/EC).

16 05 09 (discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08). Depending on branch of industry and production process, also other waste codes may be applicable. Can be considered as non hazardous waste according to Directive 2008/98/EC.

13.1.2 Disposal methods

Recycle/reuse. Remove waste in accordance with local and/or national regulations. Do not discharge into the sewer. Do not discharge into surface water.

13.1.3 Packaging/Container

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No data available.

SECTION 14: Transport information

Road (ADR)

14.1 UN number:

Transport	Not subject
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14.2 UN proper shipping name:

14.3 Transport hazard class(es):

Hazard identification number	
Class	
Classification code	

14.4 Packing group:

Packing group	
Labels	

14.5 Environmental hazards:

Environmentally hazardous substance mark	no
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14.6 Special precautions for user:

Special provisions	
Limited quantities	

Rail (RID)

14.1 UN number:

Transport	Not subject
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14.2 UN proper shipping name:

14.3 Transport hazard class(es):

Hazard identification number	
Class	
Classification code	

14.4 Packing group:

Packing group	
Labels	

14.5 Environmental hazards:

Environmentally hazardous substance mark	no
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14.6 Special precautions for user:

Special provisions	
Limited quantities	

Inland waterways (ADN)

14.1 UN number:

Transport	Not subject
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14.2 UN proper shipping name:

14.3 Transport hazard class(es):

Class	
Classification code	

14.4 Packing group:

Packing group	
Labels	

14.5 Environmental hazards:

Environmentally hazardous substance mark	no
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14.6 Special precautions for user:

Special provisions	
Limited quantities	

Sea (IMDG/IMSBC)

14.1 UN number:

Transport	Not subject
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14.2 UN proper shipping name:

14.3 Transport hazard class(es):

Class	
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14.4 Packing group:

Packing group	
Labels	

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14.5 Environmental hazards:

Marine pollutant	-
Environmentally hazardous substance mark	no

14.6 Special precautions for user:

Special provisions	
Limited quantities	

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:

Annex II of MARPOL 73/78	
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Air (ICAO-TI/IATA-DGR)

14.1 UN number:

Transport	Not subject
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14.2 UN proper shipping name:

14.3 Transport hazard class(es):

Class	
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14.4 Packing group:

Packing group	
Labels	

14.5 Environmental hazards:

Environmentally hazardous substance mark	no
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14.6 Special precautions for user:

Special provisions	
Passenger and cargo transport: limited quantities: maximum net quantity per packaging	

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

European legislation:

European drinking water standards

Maximum concentration in drinking water: 250 mg/l (sulfate) (Directive 98/83/EC)

National legislation The Netherlands

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Waste identification (the Netherlands)	LWCA (the Netherlands): KGA category 02
Waterbezwaarlijkheid	11

National legislation Germany

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WGK	1; Classification water polluting based on the components in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS) of 27 July 2005 (Anhang 4)
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potassium thiosulphate

TA-Luft	TA-Luft Klasse 5.2.1
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15.2 Chemical safety assessment:

A chemical safety assessment has been performed.

SECTION 16: Other information

Information based on classification according to CLP

Labelling according to Directive 67/548/EEC-1999/45/EC (DSD/DPD)

Not classified as dangerous in compliance with Directive 67/548/EEC and/or Directive 1999/45/EC

(*) = INTERNAL CLASSIFICATION BY BIG

PBT-substances = persistent, bioaccumulative and toxic substances

DSD Dangerous Substance Directive

DPD Dangerous Preparation Directive

CLP (EU-GHS) Classification, labelling and packaging (Globally Harmonised System in Europe)

The information in this safety data sheet is based on data and samples provided to BIG. The sheet was written to the best of our ability and according to the state of knowledge at that time. The safety data sheet only constitutes a guideline for the safe handling, use, consumption, storage, transport and disposal of the substances/preparations/mixtures mentioned under point 1. New safety data sheets are written from time to time. Only the most recent versions may be used. Old versions must be destroyed. Unless indicated otherwise word for word on the safety data sheet, the information does not apply to substances/preparations/mixtures in purer form, mixed with other substances or in processes. The safety data sheet offers no quality specification for the substances/preparations/mixtures in question. Compliance with the instructions in this safety data sheet does not release the user from the obligation to take all measures dictated by common sense, regulations and recommendations or which are necessary and/or useful based on the real applicable circumstances. BIG does not guarantee

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