

SAFETY DATA SHEET



Potassium Silicate Solution

Hybrid-Ag Pty Ltd

Catalogue number: N/A

Version No: 0.1

Issue date: 19/03/2021

Safety Data Sheet according to WHS and ADG requirements

SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

Product Identifier

Product name	Potassium Silicate Liquid
Synonyms	N/A
Other means of identification	Liquid Fertiliser, Magnesium Liquid

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

Relevant identified uses	Liquid potassium silicate formulated for use in agriculture applications
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Details of the manufacturer/importer

Registered company name	Hybrid-Ag Pty Ltd
Address	52 Buckler Road, Wangaratta, VIC 3677
Telephone	(03) 5722 7555
Mobile	
Website	www.hybridag.com.au
Email	admin@hybridag.com.au

Emergency telephone number

Association / Organisation	Poisons Information Centre
Emergency telephone numbers	13 1126
Other emergency telephone numbers	Not Available

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

HAZARDOUS CHEMICAL. According to the Model WHS Regulations and the ADG Code.

Poisons Schedule	Schedule 5
GHS Classification ^[1]	Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Label elements

GHS label elements	
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Label elements

SIGNAL WORD	DANGER
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Hazard statement(s)

H303 May be harmful if swallowed.

H315 Causes skin irritation.

H318 Causes serious eye damage.

Precautionary statement(s) Prevention

P280	Wear protective gloves/eye protection/face protection
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Precautionary statement(s) Response

P305 + P351 + P338 + P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE/doctor.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P332 + P313 I	If skin irritation occurs: Get medical advice/attention
P362	Take off contaminated clothing and wash before reuse
P312	Call a POISON CENTER or doctor/physician if you feel unwell.

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

P501	Dispose of contents and containers in accordance with local regulations
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SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Mixtures

CAS No	% (weight)	Name
1312-76-1	30-60%	Potassium silicate
7732-18-5	30-60%	Water

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye Contact	If this product comes in contact with eyes: Wash out immediately with water. If irritation continues, seek medical attention. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin contact occurs with concentrate: Flush skin and hair with running water. Seek medical advice in event of irritation.
Inhalation	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing until recovered. If respiratory symptoms persist, get medical advice/attention.
Ingestion	Do NOT induce vomiting. Immediately give a glass of water. If large quantities of the product are ingested, contact a Poisons Information Centre or a doctor immediately.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

There is no restriction on the type of extinguisher which may be used

Special hazards arising from the substrate or mixture

Special Instructions	Contain runoff from fire control or dilution water - Runoff may pollute waterways.
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Advice for firefighters

Fire Fighting	Non-combustible Alert Fire Brigade and tell them location and nature of hazard. Fire fighters to wear self-contained breathing apparatus (SCBA) and chemical splash suit. SCBA and structural firefighter's uniform may provide limited protection.
Fire/Explosion Hazard	Flammable hydrogen gas may be produced on prolonged contact with metals such as aluminium, tin, lead and zinc

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Minor Spills	Sweep up & dispose of.
Major Spills	Ensure adequate ventilation. Do not touch or walk through spilled material - Spilled liquids are very slippery. Avoid breathing any fumes formed, and contact with eyes, skin and clothing. Prevent by any means available any spillage entering a watercourse. Spilled liquid may be collected using a vacuum truck. Absorb remaining liquid with earth, sand or other non-combustible material and transfer to a suitable container for disposal (see SECTION 13).
	Personal protective equipment advice is contained in Section 8 of this SDS

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Avoid generating and inhaling vapours/spray mist, and contact with eyes, skin and clothing. Wear suitable protective clothing depending on the circumstances as per section 8. Do not mix with other chemicals unless expressly recommended by the manufacturer. Always store in original container.
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Conditions for safe storage, including any incompatibilities

Suitable container	Store in clean steel or plastic containers. Store in clean steel or plastic containers. Mild steel is the most suitable material of construction for drums, tanks, valves, pipe-work, etc. Concrete storage tanks can be used but must be strong enough to hold the weight of Potassium Silicate solution to be stored and thick enough to prevent seepage of water.
Storage incompatibilities	None known

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

No specific exposure standards are available for this product. Manufacturers recommended limit for good practice (by analogy with Potassium hydroxide):

- Safe Work Australia Exposure Standard: TWA = 2 mg/m³ Peak limitation.

*Peak limitation means a maximum or peak airborne concentration of a particular substance determined over the shortest analytically practicable period of time, which does not exceed 15 minutes.

Exposure controls

Appropriate engineering controls	Ensure exposure is managed within recommended exposure limits. A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.
Personal protection	Respiratory protection is not normally required due to low inhalation risk. If material is likely to be vaporized the use an approved respirator is necessary. Recommended: Consult a respiratory equipment supplier to aid selection of the appropriate type. Wear appropriate personal protective clothing to avoid skin contact. Recommended: Wear chemical resistant overalls, a full apron, or similar protective clothing.
Eye and face protection	Wear appropriate eye protection to prevent eye contact. Recommended: Wear glasses with side shields. If contact with material is likely, the use of chemical resistant goggles in combination with a full face shield is recommended.
Hands/feet protection	Wear protective gloves. Recommended: Wear chemical resistant gloves. If contact is likely, the use of full arm length gauntlets is recommended. Wear steel cap chemical resistant protective safety boots.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Clear, thick liquid		
Physical state	Liquid	Specific Gravity (Water = 1)	1.2 - 1.6 (typical range)
Odour	Odourless	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Applicable
pH (as supplied)	6-9	Decomposition temperature	102 - 108 °C
Melting point / freezing point (°C)	Approx. 0 °C	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	105 - 108 °C	Molecular weight (g/mol)	Not Available
Flash point (°C)	Not Applicable	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Applicable	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Applicable	Volatile Component (%vol)	30 - 60%
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water (g/L)	Fully Miscible	pH as a solution	11-13
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	Strongly alkaline; Will react exothermically with acids. Gels and generates heat when mixed with acid. May react with ammonium salts resulting in evolution of ammonia gas. Can etch glass if not promptly removed.
Chemical stability	Stable in sealed containers.
Possibility of hazardous reactions	Flammable hydrogen gas will form on reaction with aluminium, copper, zinc, etc
Conditions to avoid	Avoid exposure to air. Avoid prolonged storage above 50 °C or below 10 °C
Incompatible materials	Incompatible/reactive with acids, aluminium, copper, brass, bronze, zinc, tin and lead.
Hazardous decomposition products	The solution will boil if overheated, and irritating Potassium silicate containing mists will be released. Flammable hydrogen gas will form on reaction with aluminium, copper, zinc, etc.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	Mists and spray from the product may cause irritation to the nose, throat and respiratory system with effects including; coughing and discomfort.
Ingestion	May be harmful if swallowed. Swallowing can result in nausea, vomiting, abdominal pain and diarrhoea; May cause severe irritation to the mouth, throat and stomach.
Skin Contact	Causes skin irritation. May cause itching and skin rash. Prolonged or repeated skin contact may cause dry skin. Defatting of the skin can result in irritation and dermatitis (inflammation of the skin).
Eye	Causes serious eye damage. A severe eye irritant; May cause conjunctivitis (inflammation of the eyes) and possibly corneal burns and ulceration..

Chronic

Frequent ingestion over extended periods of time of gram quantities of silicates is associated with the formation kidney stones and other siliceous urinary calculi in humans..

SECTION 12 ECOLOGICAL INFORMATION**Toxicity**

Acute toxicity testing in fish, invertebrates and algae indicate a low order of toxicity: the soluble silicates exhibit aquatic toxicities in excess of 100 mg/l irrespective of molar ratio or metal cation.

Persistence and degradability

This material is not persistent in aquatic systems; Diluted material rapidly depolymerizes to yield dissolved silica in a form that is indistinguishable from natural dissolved silica. It does not contribute to BOD.

Bio accumulative potential

Ingredient	Bioaccumulation
	This material does not bioaccumulate except in species that use silica as a structural material such as diatoms and siliceous sponges.

Mobility in soil

Ingredient	Mobility
	Soluble in water (Sinks and mixes with water). Expected to be mobile in soil.

SECTION 13 DISPOSAL CONSIDERATIONS**Waste treatment methods**

Product / packaging disposal	
	Recycle containers whenever possible. Product residues and containers should be disposed of in accordance with local government regulations.

SECTION 14 TRANSPORT INFORMATION**Labels Required**

Marine Pollutant	
	No
HAZCHEM	
	Not Applicable

Land transport (ADG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

SECTION 15 REGULATORY INFORMATION

General Information: No Data Available
Poisons Schedule (Aust): Schedule 5

SECTION 16 OTHER INFORMATION**Other information**

Classification of the preparation and its individual components has drawn on official and authoritative sources.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations

PC-TWA:	Permissible Concentration-Time Weighted Average
PC-STEL:	Permissible Concentration-Short Term Exposure Limit
IARC:	International Agency for Research on Cancer
ACGIH:	American Conference of Government Industrial Hygienists
STEL:	Short Term Exposure Limit
TEEL:	Temporary Emergency Exposure Limit
IDLH:	Immediate Danger to Life or Health Concentrations
OSF:	Odour Safety Factor
NOAEL:	No Observed Effects Level
TLV:	Threshold Limit Value
LOD:	Limit Of Detection
OTV:	Odour Threshold Value
BCF:	Bio Concentration Factors
BEL:	Biological Exposure Index

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End of SDS