

Safety Data Sheet (SDS) ECO SL/01

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According to SANS 11014:2010 & 10234:2019/UN GHS 9th Ed
Revision Date: 25/05/2022

First print date: 2016/06/08

Version: 1.2

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

Product identifier:

Identification as on the label/Trade name: **Agro-Sil**

Additional information: Product code ECO SL/01

Relevant identification uses of the substance and uses advised against:

Identified uses: Fertilizer.

Uses advised against: Use only as directed.

Details of the supplier of the Safety Data Sheet:

AECI Limited
14 Field Road, LILANTON

Emergency telephone numbers:

Griffon Poison information centre: 082 446 8946
Poisons Information Helpline: 0861 555 777
AECI Limited: (011) 823 8000 (o/h) Spill Tech: 086 100 0366 (a/h)

SECTION 2. HAZARD IDENTIFICATION

Classification of the substances or mixture

The mixture is classified according to:

SANS 10234:2019 and the South African Hazardous Chemical Agent Regulations - 2021

Hazard Classes/Hazard Categories

Skin Corrosion/Irritation (Category 2)

Serious Eye Damage/Irritation (Category 1)

Hazard statement

H315

H318

For full text of H statements see section 16

The most important adverse effects

The most important adverse physiochemical effects: None known.

The most important adverse human health effects: Causes serious eye damage and skin irritation.

Label elements

Hazard pictograms:



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Signal Word: Danger

Hazard Statements: H315 Causes skin irritation. H318 Causes serious eye damage.

Precautionary Statements:

Prevention – P280 Wear protective gloves, eye and face protection. P264 + P265 Wash hands and face thoroughly after handling. Do not touch eyes.

Response – P317 Get medical help. P302 + P352 IF ON SKIN: Wash with plenty of water under the safety shower. P362 + P364 Take off contaminated clothing and wash it before reuse. P305 + P354 + P338 IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.

Special labelling of certain mixtures: None

Other hazards: None

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Mixture: Mixture

Ingredients:

Substance name (IUPAC/EC)	CAS –No.	Concentration % by weight	GHS Classification
	EC-No.		
Potassium Silicate	1312-76-1	30 – 60%	Skin Corrosion/ Irritation (Category 2) H315. Serious Eye Damage/Irritation (Category 1) H318.
	215-199-1		

For full text of H statements see section 16

Within the current knowledge of the supplier and in the applicable concentrations, there are no additional ingredients present in the product that are classified as hazardous to health or the environment that subsequently contribute towards the classification, and that require reporting in terms of the South African Hazardous Chemical Agent Regulations 2021; Regulation 14(b).

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4. FIRST AID MEASURES

Description of first aid measures:

In case of inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Do NOT give mouth-to-mouth resuscitation if victim ingested or inhaled the substance. Keep person at rest and warm. Treat symptomatically and supportively as and when required. Obtain medical advice if necessary.

In case of skin contact: Remove any contaminated clothing and shoes. Immediately flush skin with plenty of water for at least 15 minutes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if irritation occurs and persists.

In case of eye contact: Check for and remove any contact lenses. Hold eyelids apart and immediately flush eyes with plenty of water for at least 15 minutes. Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Cold water may be used. Obtain immediate medical attention.

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In case of ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If conscious, rinse mouth thoroughly with water. Loosen tight clothing such as a collar, tie, belt, or waistband. If vomiting occurs, lean patient forward or place on the left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Refer for medical attention without delay.

Most important symptoms and effects, both acute and delayed:

Inhalation: May cause respiratory irritation.

Ingestions: May be harmful if swallowed.

Skin contact: Causes skin irritation.

Eye contact: Causes serious eye damage - corrosive.

Indication of any immediate medical attention and special treatment needed:

Treat symptomatically and give supportive therapy.

SECTION 5. FIRE -FIGHTING MEASURE

Extinguisher media:

Suitable extinguisher media: Carbon dioxide, dry powder, or alcohol-resistant foam.

SMALL FIRE: Extinguish small fires with carbon dioxide, dry powder, or alcohol-resistant foam.

LARGE FIRE: Water spray can be used for larger fires or cooling of unaffected stock. Contain fire control water for later disposal. Avoid the run-off of polluted fire water from the site.

Unsuitable extinguishing media: Do not use high volume water jet, due to contamination risk.

Special hazards arising from the mixture:

During the fire, irritating and possible toxic gases may be generated by thermal decomposition or combustion e.g., silicon and potassium oxides.

Advice for fire-fighters:

Stay at a maximum distance and avoid inhaling hazardous vapours. Keep container cool by spraying with water.

Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear. Be sure to use an approved/certified respirator or equivalent.

Act in accordance with the site's Internal Emergency Plan and the Workplace Specific Procedures for actions to be taken after an accident or other emergencies.

SECTION 6. ACCIDENTAL RELEASE

Personal precautions, protective equipment, and emergency procedures:

For non-emergency personnel: Keep all personnel away. Avoid contact with skin, eyes, and clothing.

For emergency responders: Do not breathe in fumes/vapour and avoid contact of the spilt material with eyes, skin, or clothes. Wear appropriate protective clothing recommended in Section 8 of the SDS. Evacuate personnel to a safe area when necessary. Ventilate the area of the spill or leak, especially when in confined areas. Isolate the spill area and limit the access to emergency responders only. Do not touch or walk through spilled material as it could be slippery when spilt. Contain spills if it can be done without risk and clean-up immediately.

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Environmental precautions:

Prevent spillage or further leakage if safe to do so. Do not allow the spilt product to enter water courses and drains and avoid contact with soil. Do not allow the spilt product to spread to other areas - keep the spilt material contained and isolated. Report spills and releases as required to appropriate authorities if the spilt product has caused environmental pollution (sewers, water ways, soil, or air).

Methods for containment and cleaning up:

For small spills: Contain the spilled material if possible. Sweep up with damp absorbent material from the spill kit. Place into a labelled waste container with a shovel and cover for subsequent disposal. Dispose of collected spilt material as hazardous waste. Clean the contaminated surface with water to remove any residues of the spilt product. Keep the wash water out of drains, sewers, and waterways.

For large spills: Prevent entry into sewers, water courses, basements, or confined areas. Contain and collect spillage with suitable absorbent material e.g., spill pillows, commercial absorbent, vermiculite, or absorbent pads/rolls/scatter, and place in well labelled container for disposal according to local regulations.

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 information on disposal.

Additional information:

None.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling:

Always provide good ventilation in the work area. Do not breathe vapours or mist. Prevent the product from getting into the eyes or on skin and clothing. Wear protective clothing and equipment during handling as described in Section 8 of the SDS. Wash the hands and face thoroughly with soap after handling. Keep containers closed when not in use. Do not permit smoking in use or storage areas. Locate emergency showers and eye-rinsing facility near the work/handling area. Remove contaminated clothing immediately if the product gets inside. Launder contaminated clothing before re-use. Contaminated work clothing should not be allowed out of the workplace. Work clothes should be laundered separately. Keep unprotected persons away from the area where the product is being applied.

Protective measures: Observe directions on label and instructions for use.

Advice on general occupational hygiene: Do not eat drink or smoke when handling this product. Regular cleaning of work area and work clothing is recommended. Maintain good normal industrial hygiene and housekeeping practices in areas where the product is used/handled.

Conditions for safe storage, including incompatibilities:

Store product in a segregated and approved area below 35°C. The entrance to storage facilities should be granted only to appropriately trained personnel. Always store locked up and keep containers tightly closed when not in use. Store only in properly labelled containers. The product is stable if stored well ventilated, out of direct sunlight, cool and free of moisture and high humidity. Keep out of reach of children, uninformed persons, and animals. Protect containers from

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physical damage and check the condition of storage containers periodically (e.g., for leaks). Do not contaminate water, food, or feed by storage or disposal. Avoid cross contamination with other agricultural products. It is recommended to have appropriate spill control kits equipped with absorbent material near storage areas (see Section 6).

Specific end uses:

Use as directed. Use original container.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters:

Occupational exposure limits (OEL):

The product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the South African Department of Labour and Employment.

Biological exposure indices (BEI): None known.

None

Additional exposure limits under the conditions of use: No information available.

Exposure control:

Appropriate engineering controls: Use in well-ventilated areas with general or adequate local exhaust ventilation to maintain airborne concentrations and exposure as low as possible. Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Hygiene measures: Wash hands, forearms, and face thoroughly after handling chemical products, before eating, smoking, and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location and are easily accessible. Handle the product in accordance with good industrial hygiene and safety practice. Keep the product away from food, drink, and animal feeding stuffs.

Eye/face protection: Safety eyewear compliant with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes and mists. Due to the product being corrosive to eyes and irritating to skin, chemical protective goggles with full seal and a face shield are recommended.

Hand protection: Select skin and hand protection based on the task being performed and the risks involved with the task. Elbow length impervious chemical resistant gloves recommended for hand protection (e.g., Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, Polyvinyl alcohol, Polyvinyl chloride etc.). Consider the glove penetration time - information on glove penetration time is available from the manufacturer of the glove. The gloves should be replaced immediately in case of damage or signs of wear. It is recommended to use preventative skin protection (skin cream). Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly.

Body protection: Appropriate impervious clothing e.g., coveralls, aprons, shoes, and socks are recommended to prevent skin contact and contamination of personal clothing. Overalls must be buttoned to the neck and sleeves worn over the gloves.

Respiratory protection: Respiratory protection is required during mist/vapour formation, when ventilation is inadequate, or discomfort is experienced. The selection of respiratory protection equipment must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. It is recommended that in operations where exposure levels could be high, an approved air-purifying respirator (full face mask) with a particulate filter and an organic vapour cartridge or supplied air respirator should be used. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus.

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Environmental exposure controls: Prevent product from entry into sewers and water courses.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance (form): Liquid.

Colour: White.

Odour: Characteristic odour.

Odour threshold: No information available.

pH (at concentration): No information available.

Melting point/range (°C): No information available.

Boiling point/range (°C): No information available.

Flash point (°C): No information available.

Evaporation rate: No information available.

Ignition temperature (°C): No information available.

Upper/lower flammability/explosive limits: No information available.

Vapour pressure (20°C): No information available.

Vapour density: No information available.

Relative Density (25°C): 1.50 g/mL.

Water solubility (g/l) at 20°C: No information available.

n-Octanol/Water partition coefficient: No information available

Auto-ignition temperature: No information available.

Decomposition temperature: No information available.

Viscosity, dynamic (mPa s): No information available.

Physical hazards:

Explosive properties: Not explosive.

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Other information:

Fat solubility (solvent-oil to be specified): No information available.

Bulk density: No information available.

Dissociation constant in water (p Ka): No information available.

Oxidation-reduction potential: No information available.

SECTION 10. STABILITY AND REACTIVITY

Reactivity:

The product is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Chemical stability:

Stable under normal use, storage, and transport conditions - for 2 years.

Possibility of hazardous reactions:

Hazardous polymerisation does not occur.

Conditions to avoid:

Mist/vapour formation, and storage without ventilation. Excessive heat and moisture conditions during storage.
Contact with incompatible materials.

Incompatible materials:

Strong acids and strong oxidizing agents.

Hazardous decomposition products:

Combustion is expected to form silicon and potassium oxides.

SECTION 11. TOXICOLOGICAL INFORMATION

Toxicokinetics, metabolism and distribution:

Non-human toxicological data: No Information available.

Information on toxicological effects:

Information on likely routes of exposure

The product may be absorbed into the body by inhalation or by ingestion. The product may come into contact with the skin or eyes.

Assessment of acute toxicity:

Experimental toxicological data are not available for the product. Assessment of toxicological effects is based on the ingredients.

The ingredients of the product are of low acute toxicity.

Product/ingredient Name	Dose Acute -	Species	Test Result
Potassium Metasilicate	>5000mg/kg	Rat (female)	LD ₅₀ Oral

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>5000mg/kg	Rat	LD ₅₀ Dermal
>2.06mg/L (4h) (analytical)	Rat	LC ₅₀ Inhalation (Dust/Mist) – no mortalities

Chronic toxicity: No information available.

Skin corrosion/irritation:

Based on available data, the classification criteria are met for skin irritation.
Potassium Silicate: Rabbit, irritating to skin - 4 h (OECD Test Guideline 404).

Serious eye damage/irritation:

Based on available data, the classification criteria are met for serious eye damage.
Potassium Silicate: Risk of serious eye damage.

Respiratory or skin sensitization:

Based on available data, the classification criteria are not met.

Germ cell mutagenicity:

Based on available data, the classification criteria are not met.

Carcinogenicity:

Based on available data, the classification criteria are not met.
IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC.

Reproductive toxicity:

Based on available data, the classification criteria are not met.

STOT-single exposure:

Based on available data, the classification criteria are not met.

STOT-repeated exposure:

Based on available data, the classification criteria are not met.

Aspiration hazard:

Based on available data, the classification criteria are not met.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity:

No eco-toxicological data is available for the formulated product.
The product is expected to be of low aquatic toxicity.

Acute Toxicity

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Product/ingredient Name	Species and Genus	Exposure (hours/days)	Result in fresh water
Potassium metasilicate	Fish (<i>Leuciscus idus</i>) Crustaceans (<i>Daphnia magna</i>)	48h 24h	Acute LC ₅₀ >146mg/L Acute EC ₅₀ >146mg/L

Chronic Toxicity

The product is expected to be of low aquatic chronic toxicity.

Bio-accumulative potential:

No information available.

Mobility in soil

No information available.

Other adverse effects:

No information available.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods:

Treat as hazardous waste and do not dispose of the product or empty containers as general waste. Dispose product related waste in accordance with all local regulations and prevent the contamination of water, food, or feed by storage or disposal of the waste. Do not use empty containers for any other purpose. Special help is available for the disposal of Agricultural Chemicals. The product label will supply general advice regarding disposal of small quantities, and how to cleanse containers. Avoid and minimize the generation of waste.

Product/ packaging disposal:

Treat contaminated packaging as hazardous waste as dispose of in accordance with local regulations. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying and offer for recycling - if an available option. Recondition if appropriate, or puncture and dispose of in a hazardous waste landfill, or by other procedures approved by the local authorities.

SECTION 14. TRANSPORT INFORMATION

	Land transport (ADR/RID)	Sea transport (IMDG)	Air transport (ICAO/IATA)
UN-Number	Not required	Not required	Not required
UN Proper shipping name:	Not required	Not required	Not required
Transport hazard class:	Not required	Not required	Not required
Packaging group:	Not required	Not required	Not required
Marine pollutant:	No	No	No
Special precautions for user:	Not required	Not required	Not required
Transport in bulk according to MARPOL 73/78 Annex II and the IBC code	Not required	Not required	Not required

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Inland waterways: Not required.

Emergency response information: Not required.

Dangerous goods "Single Packaging" GHS pictogram requirements (e.g., drums and IBCs):

No dangerous goods transport markings required.

GHS hazard warning label that includes:



SECTION 15. REGULATORY INFORMATION

Safety, health, and environmental regulations/legislation for the mixture:

Relevant information regarding authorization: Occupational Health and Safety Act 1993. Regulation for Hazardous Chemical Agents, 2021. UN Recommendations on the Transport of Dangerous Goods Model Regulations Rev. 21 (2019), Globally Harmonized System of Classification and Labelling of Chemicals (GHS) Rev 9, 2021.

ACGIH: American Conference of Governmental Industrial Hygienists (ACGIH)

Relevant information regarding restrictions: None.

EU regulations: Regulation EC 1272/2008 [EU-GHS/CLP]

Other National regulations: National Road Traffic Act, 1996 (ACT NO. 93 of 1996).

SANS 10228:2012- The identification and classification of dangerous goods for transport by road and rail modes. National Environmental Management: Waste Act 59 of 2008.

Chemical Safety Assessment carried out? No.

SECTION 16. OTHER INFORMATION

Indication of changes:

GHS aligned

Relevant classification and H statements (number and full text):

Serious Eye Damage/Irritation 1: Causes serious eye damage.

Skin Corrosion/Irritation 2: Causes skin irritation.

H315 Causes skin irritation. H318 Causes serious eye damage.

Training instructions:

Use as indicated on the label, special training may be required for application.

Further information:

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

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Notice to readers:

Employers should use this information only as a supplement to other information gathered by them and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees.

This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.