

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

- **1.1 Product identifier**
- **Trade name:** MAXWELL BULLET POTASSIUM SILICATE (31% SiO₂ +22% K₂O w/v)
- **Registration number**
Mixture
Potassium silicate: 01-2119456888-17
- **UFI:** M110-X0WS-U002-AR3C
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Product category** PC12 Fertilisers
- **Application of the substance / the mixture** Fertiliser
- **Uses advised against**
Processes involving extreme heat use advised against.
Any use carrying a risk of direct contact with eyes/skin where workers are exposed without adequate personal protective equipment (PPE).
Any use involving significant release of dust, vapour or mist in the breathing zone of workers where they are exposed without suitable respiratory protective equipment (RPE).
Processes involving the use of incompatible substances - refer to section 10.
Not for end use in this form or concentration.
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Maxwell Amenity Ltd
Allscott Park
Allscott
Telford
Shropshire
TF6 5DY

Tel: +44 (0)1952 897910
- **Further information obtainable from:** Product safety department.
- **1.4 Emergency telephone number:** Tel: +44 (0)1952 897910 (not 24 hours)

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS05 corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms** GHS05
- **Signal word** Danger
- **Hazard-determining components of labelling:**
Silicic acid, potassium salt
- **Hazard statements**
H314 Causes severe skin burns and eye damage.
- **Precautionary statements**
P260 Do not breathe mist/vapours/spray.
P280 Wear protective gloves / eye protection / face protection.
P302+P352 IF ON SKIN: Wash with plenty of water.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists: Get medical advice/attention.

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- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.2 Chemical characterisation: Mixtures**
- **Description:**
An aqueous solution of potassium silicate.
Silicic acid, potassium salt (1.6<MR≤2.6)

- **Dangerous components:**

CAS: 1312-76-1 EINECS: 215-199-1	Silicic acid, potassium salt	 Met. Corr.1, H290; Skin Corr. 1A, H314	40-60%
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- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
- **After eye contact:**
DO NOT DELAY!
Check for and remove any contact lenses.
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; call for medical help immediately.
If vomiting occurs spontaneously, keep head below hips to prevent aspiration.
- **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **Information for doctor:** Treat symptomatically and supportively.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:**
Do not inhale explosion gases or combustion gases.
Wear self-contained respiratory protective device.
Wear fully protective suit.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation
Wear protective equipment. Keep unprotected persons away.

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- Particular danger of slipping on leaked/spilled product.
- **6.2 Environmental precautions:**
Do not allow product to reach sewage system or any water course in the undiluted form.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Send for recovery or disposal in suitable receptacles.
- **6.4 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.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Prevent formation of aerosols.
Ensure good ventilation/exhaustion at the workplace.
Avoid direct contact (skin/eye contact, ingestion and/or inhalation of fume/mist/dust) with the product in the undiluted form.
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Do not store in aluminium or galvanised containers.
- **Information about storage in one common storage facility:** Do not store together with acids.
- **Further information about storage conditions:**
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.
Protect from frost.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **DNELs**
Potassium silicate:
Workers - Hazard via inhalation route
Systemic effects
- DNEL (Derived No Effect Level): 5.61 mg/m³
Workers - Hazard via dermal route
Systemic effects
- DNEL (Derived No Effect Level): 1.49 mg/kg bw/day

General Population - Hazard via inhalation route
Systemic effects
- DNEL (Derived No Effect Level): 1.38 mg/m³
General Population - Hazard via dermal route
Systemic effects
- DNEL (Derived No Effect Level): 0.74 mg/kg bw/day
General Population - Hazard via oral route
Systemic effects
- DNEL (Derived No Effect Level): 0.74 mg/kg bw/day

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- **PNECs**
Potassium silicate:
PNEC aqua (freshwater): 7.5 mg/L
PNEC freshwater (intermittent releases):: 7.5 mg/L
PNEC aqua (marine water): 1 mg/L
PNEC STP: 348 mg/L
- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment:**
Select PPE appropriate for the operations taking place taking into account the product properties.
- **General protective and hygienic measures:**
Avoid contact with the eyes and skin.
Wash hands before breaks and at the end of work.
Do not inhale gases / fumes / aerosols.
Do not eat, drink, smoke or sniff while working.
- **Respiratory protection:**
Not necessary if room is well-ventilated.
Use suitable respiratory protective device in case of insufficient ventilation.
- **Protection of hands:**
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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **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:** Safety glasses
- **Body protection:**
Impervious protective clothing
Body protection must be chosen depending on product properties, activity and possible exposure.

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

Form:	Fluid
Colour:	Clear
Odour:	Mild
Odour threshold:	Not determined.
- **pH-value:** alkaline
- **Change in condition**

Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	Undetermined.
- **Flash point:** Cannot support combustion
- **Flammability (solid, gas):** Not applicable.
- **Decomposition temperature:** Not determined.
- **Auto-ignition temperature:** Product is not self-igniting.
- **Explosive properties:** Product does not present an explosion hazard.

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· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapour pressure:	Not determined.
· Density at 20 °C:	1.6 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.
· Solvent content:	
Organic solvents:	0.00 %
VOC (EC)	0.00 %
· 9.2 Other information	NOTE: The physical data presented above are typical values and should not be construed as a specification.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **10.3 Possibility of hazardous reactions**
The product will react with aluminium, zinc, tin, and their alloys evolving hydrogen gas which can form an explosive mixture with air.
Can react violently if in contact with acids.
Can react with sugar residue to form carbon monoxide.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:**
Strong acids.
Substances specifically listed in section 10.3 as incompatible.
- **10.6 Hazardous decomposition products:** Possible in traces.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

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

1312-76-1 Silicic acid, potassium salt

Oral	LD50	>2000 mg/kg (rat)
Dermal	LD50	>5000 mg/kg (rabbit)

- **Primary irritant effect:**
- **Skin corrosion/irritation**
Will defat and dry the skin.
Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**
Causes serious eye damage.

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- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **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

· 12.1 Toxicity

· Aquatic toxicity:

1312-76-1 Silicic acid, potassium salt

EC50	>100 mg/kg (daphnia)
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- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** Product is not expected to bioaccumulate.
- **12.4 Mobility in soil** No further relevant information available.
- **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.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods

· Recommendation

Recommended Hierarchy of Controls:

- Minimise waste;
- Reuse if not contaminated;
- Recycle, if possible; or
- Safe disposal (if all else fails).

Contact waste processors for recycling information.

Used, degraded or contaminated product may be classified as hazardous waste. Anyone classifying hazardous waste and determining its fate must be qualified in accordance with state and international legislation.

· European waste catalogue

Waste key numbers in accordance with the European Waste Catalogue (EWC) are origin-referred defined. Since this product is used in several industries, no waste key can be provided by the supplier. The waste key number should be determined in arrangement with your waste disposal partner or the responsible authority.

· Uncleaned packaging:

· Recommendation:

Disposal must be made according to official regulations.

Container remains hazardous when empty. Continue to observe all precautions.

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

SECTION 14: Transport information

· 14.1 UN-Number

· ADR, ADN, IMDG, IATA	Void
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· 14.2 UN proper shipping name · ADR, ADN, IMDG, IATA	Void
· 14.3 Transport hazard class(es) · ADR, ADN, IMDG, IATA · Class	Void
· 14.4 Packing group · ADR, IMDG, IATA	Void
· 14.5 Environmental hazards:	Not applicable.
· 14.6 Special precautions for user	Not applicable.
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.
· UN "Model Regulation":	Void

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 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.

- **Relevant phrases**
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
- **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
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Met. Corr.1: Corrosive to metals – Category 1
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
Eye Dam. 1: Serious eye damage/eye irritation – Category 1

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