

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

1.1: Product Identifier

Trade name: AVAIL for Granular Phosphate Fertilisers
Aqueous solution of maleic - itaconic copolymer partial sodium salt.

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

Registered uses: Agronomic additive for granular phosphate fertilisers.
Uses advised against: None known.

1.3: Details of the supplier of the safety data sheet

Company name: Verdesian Life Sciences LLC
1001 Winstead Drive
Cary
NC-27513
USA
Telephone: +1 919 825 1901
European contact name: Verdesian Life Sciences Europe Ltd
Address: 7 Rotherbrook Court
Bedford Road
Petersfield GU32 3QG
UK
Telephone: +44 (0)1730 720100
Homepage: www.vlsci.com

1.4: Emergency telephone number

Emergency telephone: +44 1235 239670

Section 2: Hazards Identification

2.1 Classification of the substance or mixture

Classification under CLP: Skin sensitiser 1B: H317

2.2 Label Elements (In compliance with EC Regulation No. 1272/2008 (CLP), as amended)

Hazard pictograms:



Signal word: Warning

H-Statements

H317	May cause an allergic skin reaction.
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Precautionary-Statements

P261	Avoid breathing mists/vapours/aerosols.
P280	Wear protective gloves/protective clothing.
P302 + P352	IF ON SKIN: Wash with plenty of water and soap.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P363	Wash contaminated clothing before reuse.
P501	Dispose of the contents/container in a collection centre for dangerous goods and hazardous waste in accordance to local, regional, national and/or international regulations.

2.3 Other hazards

Further hazards were not determined with the current level of knowledge.

Section 3: Composition/information on ingredients

Product type: This product is a mixture.

CAS No.	EEC No.	Substance Name	Classification*	Range (%)
556055-76-6		Maleic-itaconic copolymer, partial sodium salt	-	30 - 50
110-16-7	203-742-5	Maleic acid	Acute Tox. 4: H302 Skin Irrit. 2: H315 Skin Sens. 1: H317 Eye Irrit. 2: H319 STOT SE 3: H335	< 1

*For full text of H statements see Section 16

Section 4: First Aid Measures

4.1 Description of first aid measures

Inhalation: Remove casualty from exposure ensuring one's own safety whilst doing so. Ensure supply of fresh air. Consult a doctor.

Skin contact: Remove all contaminated clothes and footwear immediately unless stuck to the skin. Drench the affected skin with running water for 10 minutes or longer if substance is still on skin. Consult a doctor.

Eye contact: Remove contact lenses, if present and easy to do so. Bathe the eye with running water for 15 minutes. Consult a doctor.

Ingestion: Wash out mouth with water. Do not induce vomiting. If conscious, give half a litre of water to drink immediately. Consult a doctor.

4.2 Most important symptoms and effects, both acute and delayed

Inhalation: There may be irritation of the throat with a feeling of tightness in the chest.

Skin contact: There may be irritation and redness at the site of contact.

Eye contact: There may be irritation and redness. The eyes may water profusely.

Ingestion: There may be soreness and redness of the mouth and throat.
Nausea and stomach pain may occur. There may be vomiting.

Delayed/immediate effects: Immediate effects can be expected after short-term exposure.

4.3 Indication of any immediate medical attention and treatment needed

Immediate/special treatment: Not applicable. Treat symptomatically.

Section 5: Firefighting Measures

5.1 Extinguishing media

Suitable: Foam, dry powder, water spray jet, carbon dioxide.

Unsuitable: Full water jet.

5.2 Special hazards arising from the substance or mixture

Exposure hazards: Risk of formation of toxic pyrolysis products: Carbon monoxide (CO), Phosphorous oxides (PO_x), Nitrogen oxides (NO_x).

5.3 Advice for firefighters

Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin or eyes. Fire residues and contaminated firefighting water must be disposed of in accordance with local regulations.

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions: Refer to Section 8 of the SDS. If outside do not approach from downwind and keep bystanders away from danger point. Mark out the contaminated area with signs and prevent access to unauthorised personnel. Turn leaking containers leak-side up to prevent escape of liquid. High risk of slipping due to leakage/spillage of product. Use personal protective equipment.

6.2 Environmental Precautions

Environmental precautions: Do not discharge into drains or rivers. Contain the spillage using bunding to prevent spread over a wide area.

6.3 Methods for cleaning up

Clean-up procedures: Absorb into an absorbent material (e.g. sand, sawdust, universal absorbent, diatomaceous earth). Transfer to a closeable, labelled salvage container for disposal in accordance with local regulations.

6.4 Reference to other sections

Reference to other sections: Refer to Section 8 and 13 of the SDS.

Section 7: Handling and Storage

7.1 Precautions for safe handling

Handling: The normal safety precautions for handling chemicals must be observed. Avoid direct contact with the substance. Use only in well ventilated areas. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. Use skin barrier cream.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions: Store in cool, dry, well ventilated area. Keep container tightly closed. Do not store together with animal feed/diet. Protect from frost. The floor of the storage area must be impermeable to prevent the escape of liquids.

Suitable packaging: Must only be kept in original packaging.

7.3 Specific end use(s)

Specific end use: See product use, Section 1.2.

Section 8: Exposure controls/personal protection

8.1 Control parameters

Workplace exposure limits: No data available.
DNEL/PNEC: No data available.

8.2 Exposure controls

Engineering measures: Ensure there is sufficient ventilation of the area.
Environmental: Comply with applicable environmental regulations limiting discharge to air, water and soil. Prevent from entering public sewers.
Hand protection: Use impermeable gloves.
Eye protection: Safety glasses. Ensure eye bath is to hand.
Skin protection: Impermeable protective clothing.
Respiratory protection: Use self-contained breathing apparatus in the event of aerosol or mist formation.
Thermal hazards: Not applicable.

Section 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Form/state	Liquid	Explosion limit	No data available
Colour	Light yellow- brown	Vapour pressure	No data available
Odour	No data available	Vapour density	No data available
Odour threshold	No data available	Relative density	1.273 – 1.331 g/ml
pH	7.0 - 8.0	Solubility in water	Miscible
Melting point	No data available	Part. Coeff. N-octanol/water	No data available
Freezing point	-10°C	Auto-ignition temperature	No data available
Initial boiling point	No data available	Decomposition temperature	No data available

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Boiling range	No data available	Viscosity	< 50 cP
Flash point	No data available	Explosive properties	Not explosive (Based on composition)
Evaporation rate	No data available	Oxidizing properties	No (Based on composition)
Flammability	Non flammable (Based on composition)		

9.2 Other information

Other information: No data available.

Section 10: Stability and Reactivity

10.1 Reactivity

Reactivity: No dangerous reactions known if used as directed.

10.2 Chemical stability

Chemical stability: Stable under normal ambient conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions: On exposure to elevated temperatures, this mixture may release dangerous decomposition products such as carbon oxides and fumes.

10.4 Conditions to avoid

Conditions to avoid: Not available.

10.5 Incompatible materials

Materials to avoid: Strong oxidising agents, strong acids, alkalines, materials incompatible with water, materials incompatible with sodium salts and materials incompatible with carboxylates.

10.6 Hazardous decomposition products

Decomp. Products: In the event of fire, see Section 5.

Section 11: Toxicological Information

11.1 Acute toxicity

Acute Toxicity	Oral LD ₅₀	> 2000 mg/kg (OECD No. 423, rat)
	Dermal LD ₅₀	>2000 mg/kg (OECD No. 402, rat)
Eye damage/irritation:		Not damaging/Not irritant (OECD No. 405, rabbit)
Skin corrosion/irritation:		Not corrosive/Not irritant (OECD No. 404, rabbit)
Respiratory or Skin sensitisation:		Skin Sensitiser Category 1B (LLNA, mouse)
STOT (single exposure):		Not determined
STOT (repeated):		Not determined
Germ cell mutagenicity:		Not determined

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Carcinogenicity:	Not determined
Reproductive and lactation toxicity:	Not determined
Aspiration hazard:	Not determined

Section 12: Ecological Information

12.1 Toxicity

General remarks

The product does not present a danger to the environment: see results of biological impact studies below. There is no environmental classification under the CLP regulation based on these test results.

The tests were conducted on AVAIL for Granular Phosphate Fertilisers.

Fish (*Brachydanio rerio*), NF EN ISO 7346-1, 1998:

At 7.61 L/ha (= 10 x agronomic dose), no mortality.

Daphnia (*Daphnia magna*) NF EN ISO 6341, 2012:

At 7.61 L/ha (= 10 x agronomic dose), no immobilisation.

Algae (*Pseudokirchneriella subcapitata*) NF EN ISO 8692, 2012:

At 7.61 L/ha (= 10 x agronomic dose), no growth inhibition.

Earthworm (*Eisenia fetida*) NF ISO 11268-2, 2012:

At 7.61 L/ha (= 10 x agronomic dose), no mortality at 28 days, and 38% reproductive inhibition.

At 2.28 L/ha (= 3 x agronomic dose), no mortality at 28 days and 8% reproductive inhibition.

At 0.761 L/ha (= dose agronomic), no mortality at 28 days, 5% reproductive inhibition.

Terrestrial plants (*Avena sativa*) NF ISO 11269-2, 2013:

At 7.61 L/ha (= 10 x agronomic dose) and at 2.28 L/ha (= 3 x agronomic dose), 5.9% germination inhibition, no growth inhibition.

At 0.761 L/ha (= agronomic growth), no inhibition of germination and growth.

Terrestrial plants (*Brassica napus*) NF ISO 11269-2, 2013:

At 7.61 L/ha (= 10 x agronomic dose), At 2.28 L/ha (= 3 x agronomic dose) and at 0.761 L/ha (= agronomic dose), ≤ 2.5% inhibition of germination and growth.

12.2 Persistence and degradability

Persistence/biodegradability: No data available.

12.3 Bio accumulative potential

Bioaccumulative potential: No data available.

12.4 Mobility in soil

Mobility: No data available.

12.5 Results of PBT and vPvB assessment

PBT identification: This product has not been evaluated for PBT/vPvB characteristics.

12.6 Other adverse effects

No information available

Section 13: Disposal Considerations

13.1 Waste treatment methods

Disposal procedure: Transfer to a suitable container and arrange for collection by specialised disposal company.

Recovery operations: Not applicable.

Disposal of packaging: Dispose of as normal industrial waste at an approved site.

N.B.: The users attention is drawn to the possible existence of regional or national regulations regarding disposal.

Section 14: Transport Information

14.1 UN Number

UN number: See Section 14.2 in accordance with UN shipping name.

14.2 UN proper shipping name

Shipping name: Not classified as “dangerous goods”, exempt from transport classification and labelling.

14.3 Transport hazard classes

Transport class: See Section 14.2 in accordance with UN shipping name.

14.4 Packing group

Packing group: See Section 14.2 in accordance with UN shipping name.

14.5 Environmental hazards

Environmentally hazardous: See Section 14.2 in accordance with UN shipping name.

14.6 Special precautions for user

Special precautions: No special precautions. See relevant information in Sections 6 to 8.

Section 15: Regulatory Information

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

Specific regulations: Not applicable.

15.2 Chemical Safety Assessment

A chemical safety assessment has not been carried out for the substances in this mixture.

Section 16: Other Information

Phrases in Sections 2-3:	H302	Harmful if swallowed.
	H315	Causes skin irritation.
	H317	May cause an allergic skin reaction.
	H319	Causes serious eye irritation.

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H335 May cause respiratory irritation.

Other information: This safety data sheet is prepared in accordance with Regulation (EC) No. 1907/2006 (REACH) and 1272/2008 (CLP) as amended in each case.

Abbreviations:

- CLP: Classification, Labelling and Packaging.
- DNEL: Derived No Effect Level.
- LC50: Lethal concentration, 50%.
- LD50: Median lethal dose.
- LLNA: Local Lymph Node Assay.
- OECD: Organisation for Economic Co-operation and Development.
- PBT: Persistent, Bioaccumulative and Toxic substance.
- PNEC: Predicted No-Effect Concentration.
- REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals.
- VOC: Volatile Organic Compound.
- vPvB: Very Persistent and very Bioaccumulative.

Legal disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The company shall not be held liable for any damage resulting from handling or from contact with the above product.