

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 06.11.2022

Revision: 06.11.2022

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

- **1.1 Product identifier**
- **Trade name:** **K-MAX**
- **Registration number** Mixture
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Sector of Use** SU1 Agriculture, forestry, fishery
- **Product category** PC12 Fertilisers
- **Application of the substance / the mixture** Fertiliser
- **Uses advised against**
Processes involving the use of incompatible substances - refer to section 10.
Processes involving extreme heat use advised against.
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Agrovista UK Ltd
Rutherford House
Nottingham Science and Technology Park
University Boulevard
Nottingham
NG7 2PZ
UK

Tel: +44 (0)1952 897910
- **Further information obtainable from:** Product safety department.
- **1.4 Emergency telephone number:**
UK National Poisons Information Service. E-mail: npis.birmingham@nhs.net; Tel: +44 (0)344 892 0111

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
The product is not classified, according to the GB CLP regulation.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **Additional information:**
EUH401 To avoid risks to human health and the environment, comply with the instructions for use.
Product contains: Reportable explosives precursors. Making available, introduction, possession and use according to Regulation (EU) 2019/1148, Article 9.
- **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:** Mixture of substances listed below with nonhazardous additions.

- **Dangerous components:**

CAS: 7757-79-1 EINECS: 231-818-8	Potassium nitrate	 Ox. Sol. 2, H272	>50-≤100%
CAS: 107-21-1 EINECS: 203-473-3	Ethanediol	 STOT RE 2, H373;  Acute Tox. 4, H302	>2.5-≤10%

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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:**
Do not delay
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.
- **Information for doctor:**
Treat symptomatically and supportively.
Nitrates may cause effects on the blood, resulting in formation of methaemoglobin when ingested. The effects may be delayed. Medical observation is indicated.
- **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **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:** Water
- **For safety reasons unsuitable extinguishing agents:** Do NOT use dry chemicals, halon or foam.
- **5.2 Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
- **5.3 Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
Do not inhale explosion gases or combustion gases.
- **Additional information** Cool endangered receptacles with water spray.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
- **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 liquid components with liquid-binding material.
Send for recovery or disposal in suitable receptacles.
Do not use combustible materials such as paper towels to clean up spills.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.

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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 contact with clothing and other combustible materials.

Rinse contaminated clothes (fire hazard) with plenty of water.

· **Information about fire - and explosion protection:** The product is not flammable.

· 7.2 Conditions for safe storage, including any incompatibilities

· Storage:

· Requirements to be met by storerooms and receptacles:

Do not store on combustible materials such as wooden floors or wooden pallets.

· Information about storage in one common storage facility:

Store away from flammable substances.

Do not store together with textiles.

Store away from foodstuffs.

Store away from reducing agents.

· Further information about storage conditions:

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· 8.1 Control parameters

· **Additional information about design of technical facilities:** No further data; see item 7.

· Ingredients with limit values that require monitoring at the workplace:

107-21-1 Ethanediol

WEL	Short-term value: 104** mg/m ³ , 40** ppm
	Long-term value: 10* 52** mg/m ³ , 20** ppm
	Sk *particulate **vapour

· **Additional information:** The lists valid during the making were used as basis.

· 8.2 Exposure controls

· Personal protective equipment:

· General protective and hygienic measures:

Wash hands before breaks and at the end of work.

Immediately remove all soiled and contaminated clothing

Keep away from foodstuffs, beverages and feed.

Avoid contact with the eyes.

Avoid close or long term contact with the skin.

Do not eat, drink, smoke or sniff while working.

Take note of assigned Workplace Exposure Limits.

· **Respiratory protection:** Use suitable respiratory protective device in case of insufficient ventilation.

· Protection of hands:



Protective gloves

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

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- **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.
- **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:**
Protective work 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:	Brown
Odour:	Mild
Odour threshold:	Not determined.

· **pH-value:** 6.5-7.5

· Change in condition

Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	Undetermined.

· **Flash point:** Not applicable.

· **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.

· Explosion limits:

Lower:	Not determined.
Upper:	Not determined.

· **Vapour pressure at 20 °C:** 23 hPa

Density at 20 °C:	1.45 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 %

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· **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** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:**
Reducing agents.
Organic solvents.
Combustible materials.
Strong acids.
- **10.6 Hazardous decomposition products:**
Solids upon evaporation decompose on heating producing nitrogen oxides, oxygen, which increases fire hazard.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.
- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Additional toxicological information:**
`Absorption of significant amounts of nitrates may cause: abdominal pain; blue lips or fingernails; blue skin; dizziness; laboured breathing; confusion; convulsions; diarrhoea; headache; nausea; unconsciousness.
- **CMR effects (carcinogenicity, 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:** No further relevant information available.
- **12.2 Persistence and degradability** The organic portion of the product is biodegradable.
- **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.

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- **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).

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

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.

- **Uncleaned packaging:**

- **Recommendation:**

Disposal must be made according to official regulations.

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

Containers, even those that are "empty," may contain residues that can develop hazardous gases and vapours upon heating. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers.

Do not mix with other waste streams.

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

SECTION 14: Transport information

- **14.1 UN-Number**

- **ADR, IMDG, IATA**

Void

- **14.2 UN proper shipping name**

- **ADR, 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:**

- **Marine pollutant:**

No

- **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**

- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t

- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t

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- **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**

H272 May intensify fire; oxidiser.

H302 Harmful if swallowed.

H373 May cause damage to organs through prolonged or repeated exposure.

- **Department issuing SDS:** Product safety department.

- **Abbreviations and acronyms:**

ADR: Accord relatif au transport international 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)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Ox. Sol. 2: Oxidizing solids – Category 2

Acute Tox. 4: Acute toxicity – Category 4

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

Annex: Exposure scenario

- **Sector of Use** SU1 Agriculture, forestry, fishery

- **Product category** PC12 Fertilisers

- **Description of the activities / processes covered in the Exposure Scenario**

Distributing of fertilisers

Mixing of solids

Sampling

Filling processes

Mixing of liquids and solids

Use of potassium nitrate for formulation of preparations for fertilisers, pyrotechnic, fireworks, antifreeze, explosives, washing/cleaning products and water treatment chemicals; Industrial use as intermediate to synthesise other substances; Industrial use of the substance in solar power plants; Industrial end use as processing aid; chemical synthesis; Industrial end-use for manufacturing of glass and frits; Industrial end-use as heat transfer salt (energy storage); Industrial end-use as heat treatment salt and oxidizing flux; Industrial end-use as surface treating agent; industrial end-use as surface treating agent; Professional end-use (deicing/ antifreeze); Professional end-use (washing and cleaning); Consumer use of cosmetic products containing potassium nitrate; use of fertiliser as carrier or co-formulant in (consumer) plant protection products.

- **Conditions of use** According to directions for use.

- **Duration and frequency** 5 workdays/week.

- **Worker** 5 workdays/week.

- **Environment**

Intended for deliberate release in the environment.

The undiluted product must not enter the sewage system or the aquatic environment.

- **Physical parameters**

The data on the physical - chemical properties in the Exposure Scenario is based on the properties of the preparation.

- **Physical state** Powder

- **Concentration of the substance in the mixture** The substance is main component.

- **Used amount per time or activity** According to directions for use.

- **Other operational conditions** Observe the general safety regulations when handling chemicals.

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- **Other operational conditions affecting environmental exposure**
Observe section 6 of the Safety Data Sheet (Accidental release measures).
- **Other operational conditions affecting worker exposure**
Avoid long-term or repeated skin contact.
Avoid contact with eyes.
Do not breathe dust.
Keep away from heat.
Keep only in the original container in a cool, well-ventilated place.
Ensure adequate ventilation, especially in closed rooms.
Change work clothes after every shift.
Gloves required during a shift
Respiratory protection is required in work areas with inadequate ventilation and during spraying application.
- **Risk management measures**
- **Worker protection**
- **Organisational protective measures**
Provide Internal Plant Instruction.
Handling procedures must be well documented.
Ensure that the working area is organised, well lit and ventilated, with enough space to handle spilled product.
Keep away from food, beverages and animal feed.
Provide washing facilities in the workplace.
The appropriate type of chemical protective glove has to be selected specifically, depending on the concentration and quantity of hazardous substances in the workplace.
- **Technical protective measures**
Thorough dedusting.
Store in cool, dry place in tightly closed receptacles.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of dust.
Any unavoidable deposit of dust must be regularly removed.
- **Personal protective measures**
Wash hands before breaks and at the end of work.
Avoid close or long term contact with the skin.
Avoid contact with the eyes.
Do not inhale dust / smoke / mist.
Do not eat, drink, smoke or sniff while working.
Safety glasses
Protective work clothing
Change contaminated clothing immediately.
Used work clothes should not be worn outside of the workplace.
Use suitable respiratory protective device in case of insufficient ventilation.
Protective gloves
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
- **Measures for consumer protection**
Ensure adequate labelling.
Provide instructions for use.
Keep out of reach of children.
- **Environmental protection measures** No special measures required.
- **Air** No special measures required.
- **Water** No special measures required.
- **Soil** No special measures required.
- **Notes** In case of unintended release of the product: See section 6 of the Safety Data Sheet.
- **Disposal measures**
Must not be disposed of with household waste. Do not allow to reach sewage system.
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.
Disposal must be made according to official regulations.
- **Exposure estimation**
- **Worker (oral)** No significant oral exposure
- **Worker (dermal)** No significant dermal exposure

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- **Worker (inhalation)** No significant inhalative exposure
- **Guidance for downstream users** No further relevant information available.

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