KYNOCH FERTILIZER

SAFETY DATA SHEET

Urea Phosphate

Date Issued / Revised Date : 25 September 2022
New version : 3.0
Date previously revised : 1 February 2021
Replaced version : 2.0

Prepared according to: United Nations GHS (Rev 9E) (2021) and SANS 10234:2019
(This Safety Data Sheet conforms to the requirements set by the Department of Agriculture, Land reform and Rural development of the Republic of South Africa on the 29 March 2022)

SECTION 1: IDENTIFICATION

1.1 GHS[1] product identification

Product Name : **Urea Phosphate**

[1] GHS - Globally Harmonized System of Classification and Labelling of Chemicals

1.2 Other means of identification

Description : **Urea Phosphate, UP**

Chemical name : **Urea Phosphate**

CAS Number [2] : **4861-19-2 / 4401-74-5**

EC Number [3] : **225-464-3**

[2] "CAS Number" - CAS Number is a numerical designation for chemicals that is maintained by the Chemical Abstracts Service (CAS) of the American Chemical Society.
[3] "EC Number" - The European Community number (EC number) is a unique identifier that was assigned to substances for regulatory purposes within the European Union by the European Commission.

1.3 Recommended use of materials and restrictions on use

Recommended use of material : **Intended to be used as a fertilizer and in fertilizer blends**

Description : **Source of plant nutrients**

Restrictions on use : **None Identified**

1.4 Supplier's details

Supplier's details : **1st Floor, ETG House**
62 Weirda Road East
Sandton
2196
Tel no: (011) 317-2000

1.5 Emergency phone number

Emergency phone number : **Dial Triple Zero (000) and ask for fire**
: **Ambulance or the Fire department – 10177**
: **Spilltech - 086 100 0366**

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SECTION 2: HAZARD IDENTIFICATION

2.1 Classification of substance or mixture

Product Defined : **Substance**

Summarized Classification

Types of Hazards	Hazard Class	Category/subcategory	H-Statement
Physical Hazards	Not Classified [1]		
Health Hazards	Skin corrosion/irritation	Category 1B	H314
Environmental Hazards	Not Classified [1]		

Classification according to the United Nations GHS (Rev 9E) (2021) and SANS 10234:2019

[1] "Not Classified" – Data conclusive but not at sufficient levels for classification.
[2] "H-Statement" – Hazard Statement. Full decryption in Section16

Classification by Organization

Organization	Substance	CAS Number	Classification
EPA-NZ	Urea Phosphate	4861-19-2	Not Listed
ECHA	Urea Phosphate	4861-19-2	Skin Corr. 1B
ILO (WHO)	Urea Phosphate	4861-19-2	Not Listed
AICIS	Urea Phosphate	4861-19-2	Not Listed

Reference: (European Chemical Agency [ECHA], n.d.) & (Environmental protection agency [EPA]. New Zealand Government, n.d.) & (The Australian Industrial Chemicals Introduction Scheme [AICIS], n.d.) & (International Labour organization [ILO], n.d.)

2.2 GHS Label elements, including precautionary statements

Pictogram :

Pictogram Name : **Corrosion**

Signal Word : **Danger**

Hazard Statements : **H314 - Causes severe skin burns and eye damage.**

Precautionary Statements : **P260 - Do not breathe dust/fume/gas/mist/vapors/spray.**

: **P264 - Wash hands [and …] thoroughly after handling.**

: **P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...**

Reference: (Pubchem, GHS, n.d.)

2.3 Other hazards that do not result in classification

Hazards : **Eye Irrit. 2 - Causes serious eye irritation**

: **Skin Irrit. 2 - Causes skin irritation**

Reference: (European Chemical Agency [ECHA], n.d.) & (Pubchem, search, n.d.)

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SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substance

Common name	:	**Urea phosphate**
EC Name	:	**Urea phosphate**
Chemical Formula	:	**$CH_4N_2O.H_3PO_4$**
Molecular Weight	:	**158.05 g/mol**
Nutrient Content	:	**17-17.5% Nitrogen (N), 19 -19.7% Phosphate (P)**
CAS Number	:	**4401-74-5 / 4861-19-2**
EC Number	:	**224-534-0 / 225-464-3**
Impurities and stabilizers	:	**N/A**[1]

[1] *"N/A" – Not available*

Reference: (European Chemical Agency [ECHA], n.d.) & (The Australian Industrial Chemicals Introduction Scheme [AICIS], n.d.)

3.2 Mixture

Mixture	:	**Not Applicable**

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General information	:	**No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.**
After inhalation	:	**Remove person to fresh air and keep comfortable for breathing. Get emergency medical help immediately.**
After skin contact	:	**Take off Immediately all contaminated clothing. Immediately rinse with water for several minutes. Wash contaminated clothing before reuse. If skin irritation continues, consult a doctor.**
After eye contact	:	**Immediately rinse with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical treatment.**
After swallowing	:	**Rinse mouth. Do NOT induce vomiting. If symptoms persist consult doctor.**

4.2 Most important symptoms and effects, both acute and delayed

Effects	:	**Inhalation**	-	**May give off gas, vapour or dust that is very irritating or corrosive to the respiratory system.**
		Ingestion	-	**Small quantities (such as a tablespoon full) swallowed during normal handling operations are unlikely to cause injury; swallowing amounts larger than that may cause injury. May cause burns to mouth, throat, and stomach.**
		Skin contact	-	**Causes severe burns.**
		Eye contact	-	**Causes serious eye damage**

Symptoms	:	**Inhalation**	-	**Symptoms may include coughing, shortness of breath, sore throat, or runny nose.**
		Ingestion	-	**No specific data**
		Skin contact	-	**Adverse symptoms may include the following: pain, redness, irritation, swelling, itching, or blistering may occur.**
		Eye contact	-	**Adverse symptoms may include the following: pain, watering, redness.**

4.3 Indication of any immediate medical attention and special treatment needed

Note to physician	:	**Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.**
Specific treatment	:	**No specific treatment.**

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing medium

Suitable extinguishing agents	:	**Water should be used for this material, when this material is decomposing because of heated up. For the main fire, water, dry chemical, carbon dioxide, halon or fog can be used. Product is non-flammable.**
Inappropriate extinguishing media	:	**None identified**
Notes	:	**Use fire extinguishing methods suitable to surrounding conditions.**

5.2 Specific hazards arise from chemical

Warning	:	**No specific fire or explosion hazard.**
Hazardous Combustion Products	:	**Noxious gases ammonia NH3 and Carbon Dioxide CO2 are formed in a fire. Avoid breathing dusts, vapours or fumes from burning materials. In case of inhalation of decomposition products in a fire, symptoms may be delayed.**
Fire hazard	:	**Non-flammable substance**
Explosion hazard	:	**Not applicable**
Reactivity	:	**None**

5.3 Special protective action for Fire-Fighters

Special protective actions for fire-fighters	:	**Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire.**
	:	**No action shall be taken involving any personal risk or without suitable training.**
Special protective equipment for fire-fighters	:	**Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.**
	:	**Clothing for fire-fighters (including helmets, protective boots, and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.**

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SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment, and emergency procedures

Percussions	:	**No action shall be taken involving any personal risk or without suitable training.**
Equipment	:	**Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.**
Procedure	:	**Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Provide adequate ventilation.**

[1] *PPE – Personal precautions, protective equipment.*

6.2 Environmental precautions

Environmental	:	**Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.**
	:	**Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil, or air).**
	:	**Discharge into the environment must be avoided.**

6.3 Methods and material for containment and cleaning up

Small Spill	:	**Move containers from spill area. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor.**
Large Spill	:	**Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements, or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labelled waste container. Dispose of via a licensed waste disposal contractor.**

6.4 Reference to other sections

Section 7	:	**Information on safe handling.**
Section 8	:	**Information on personal protection equipment.**
Section 13	:	**For disposal information.**

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Handling	:	**Ensure adequate ventilation. Avoid dust formation. Avoid breathing dust. Avoid getting in eyes or on skin. Wash thoroughly after handling.**
	:	**Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed.**
	:	**Incompatible with bases due to acid behaviour when dissolved in water.**
	:	**For precautions see section 2.2.**

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7.2 Conditions for safe storage, including any incompatibilities

Storerooms and receptacles	:	**No special requirements.**
One common storage facility	:	**Avoid contamination by any source including metals, dust, and organic materials.**
Incompatible Material	:	**Do not store near acids, bases, oxidizing and reducing agents, organics and other oxidizable materials or where flammable or combustible materials are stored.**
	:	**Incompatible with bases due to acid behaviour when dissolved in water.**
Handling of product	:	**P405 - Store locked up.**
		Keep container tightly closed.
	:	**Do not store in unlabelled containers.**
	:	**Store in original container.**
Room conditions	:	**Protected from direct sunlight in a dry, cool, and well-ventilated area**
Special requirement	:	**Reseal carefully any opened container and set upright to avoid leakages. Keep the product in the original containers.**
Storage Class	:	**(TRGS 510): 10 - 13 Other liquids and solids: Non-Combustible Solids**

Reference: (BAUA, 2016)

7.3 Specific end use(s)

Specific end use(s)	:	**Apart from the uses mentioned in section 1.3 no other specific uses are stipulated**

SECTION 8: EXPOSURE CONTROL AND PERSONNEL PROTECTION

8.1 Control Parameters

	Compound	Cas Number		TWA [1]	STEL [2]
South African Labour Department	Urea Phosphate	4861-19-2		Not Listed	Not Listed
International Labour organization (ILO)	Urea Phosphate	4861-19-2		Not Listed	Not Listed
OCHA	Urea Phosphate	4861-19-2		1 mg/m^3	2mg/m^3

[1] *TWA – Long term exposure: Time Weighted Average (8-hour period)*
[2] *STEL – Short term exposure: Short term exposure limit (15 min period)*

Reference: (South African Labour Department, 2021) & (ILO, n.d.) & (OSHA, n.d.)

Routes of exposure	:	**Can be locally absorbed by ingestion, inhalation, and dermal contact.**
Inhalation risk	:	**The substance is not classified for acute exposure via inhalation.**
Effects of short-term exposure	:	**Causes severe skin burns and eye damage.**
Effects of long-term or repeated exposure	:	**Not Listed**

Reference: (ILO, n.d.)

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8.2 Appropriate engineering controls

Engineering controls	:	**Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations, and safety showers are close to the workstation location. See Section7.**

8.2 Individual protection measures

Eye/face protection	:	**Wear safety glasses.** Use equipment for eye protection tested and approved under appropriate government standards. SABS adoption: SANS 50166:2018(SA), EN 166(EU) or NIOSH (US).
Skin Protection	:	**Gloves is recommended.** Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
Body Protection	:	**Wear appropriate long sleave clothing.** Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Respiratory protection	:	**Not required under normal conditions of use.** Where protection from nuisance levels of dusts is desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Control of environmental exposure		**No special environmental precautions required**

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Properties

Physical state	:	**Solid** [1]
Composition	:	**Substance** [2]
Colour	:	**White**
Odour	:	**Odourless**
Melting point/freezing point	:	**116-118℃**
Boiling point or initial boiling point and boiling range	:	**158°C at 760 mmHg**
Flammability	:	**Not flammable**
Lower and upper explosion limit/flammability limit	:	**Not determined**

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Flash point	:	**311.2°C**
Auto-ignition temperature	:	**Study scientifically not necessary / other information available.**
Oxidizing Properties	:	**Non-Oxidizer**
Decomposition temperature	:	**Not determined**
pH	:	**2.7 - 2.8 [Conc. (% w/w): 0.5 g/l]**
Kinematic viscosity	:	**Study technically not feasible**
Solubility	:	**> 100 g/l @ 20 °C**
Partition coefficient: n-octanol/water (log value)	:	**-1.73 @ 20 °C**
Vapour pressure	:	**1.41mmHg at 25°C**
Density and/or relative density	:	**1.77 g/cm³ @ 20°C**
Relative vapour density	:	**Not Listed**
Bulk Density (Volumetric)	:	**950 kg/m³**
Particle characteristics	:	**Mass Median Aerodynamic Diameter (MMAD) - 520.115 µm.** **3.30 % < 10.00 µm** **10% <136.4 µm**
Molecular Formula	:	**$CH_4N_2O.H_3PO_4$**
Molecular Weight	:	**158.05 g/mol**

[1] *"Solid" – Is a substance that cannot be classified as a liquid or Gas.*
[2] *"Substance" – Is chemical elements and their compounds in their natural state or obtained by production process)*

Reference: (ECHA, n.d.) & (ChemBK, 2015)

SECTION 10: STABILITY AND REACTIVITY

Reactivity	:	**Non-Reactive**
Chemical stability	:	**Stable under normal conditions.**
Hazardous Reactions	:	**A dangerous reaction will not occur.**
Conditions to Avoid	:	**Excessive temperatures.**
Incompatible Materials	:	**Do not store near acids, bases, oxidizing and reducing agents, organics and other oxidizable materials or where flammable or combustible materials are stored.**
Hazardous Decomposition Products	:	**Fumes of NH_3 and CO_2 are released when heated at high temperatures**

SECTION 11: TOXICOLOGY

11.1 Acute Toxicity

Classification	:	**No Classification**
Description	:	**Urea phosphate will directly dissociate into urea and phosphoric acid in an aqueous environment. Orally - An LD50 of 1.70 ml/100 g body weight in SPF-Wister K rats for a 10% solution of 75.4% thermal phosphoric acid (study performed according to OECD Guideline 423) was observed. This is approximately 2600 mg/kg bw.**

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Method	Compound	Cas Number	Measure	Value	Subject
Oral	Urea Phosphate	4861-19-2	LD50 [1]	2600 mg/kg bw [2]	Rat
Inhalation	Urea Phosphate	4861-19-2		Not justified	
Dermal	Urea Phosphate	4861-19-2		Not justified	

[1] *"LD50" – Lethal Doses. The dosage at which 50% mortality was observed.*
[2] *"bw" - body-weight/day*

Reference: (ECHA, n.d.) & (Pubchem, search, n.d.) & (EPA. New Zealand Government, n.d.)

11.2 Skin corrosion/irritation

Classification : **No classification**

Description : **The test substance was found to be non-irritating to the skin of rabbits, and therefore according to Council Directive 67/548/EEC does not require classification or labelling.**

Subjects : **Rabbit**

Reference: (ECHA, n.d.)

11.3 Serious eye damage/irritation

Classification : **No Classification**

Description : **Urea is mildly irritating to eyes.**

Subjects : **Rabbits**

Reference: (ECHA, n.d.)

11.4 Respiratory or skin sensitisation

Classification : **Skin corrosive, category 1B**

Description : **Phosphoric acid and thus urea phosphate is classified as skin corrosive, thus a further assessment for skin sensitization is not necessary.**

Subjects : **N/A**

Reference: (ECHA, n.d.)

11.5 Germ cell mutagenicity

Classification : **No classification**

Description : **Urea phosphate will directly dissociate into urea and phosphoric acid in aqueous environment. Both substances show negative results in Ames tests. Diammonium hydrogen orthophosphate is also negative in a chromosome aberration study. Urea shows positive results in assay for mutagenicity and clastogenicity in mammalian cells, however the value of this study is limited by the extremely high-test concentration. Phosphoric acid and urea were both negative in an MLA assay. Based on the physiological role and presence in the body at high concentrations of urea, urea phosphate is not considered to be genotoxic. No adverse effect observed (negative)**

Subjects : **Salmonella typhimurium strains**

Reference: (ECHA, n.d.)

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11.6 Carcinogenicity

Classification	:	**No Classification**
Description	:	**The carcinogenicity of urea was investigated in NCI 12 -month screening studies in the rat and mouse (Fleischman et al, 1980). No evidence of carcinogenicity or toxicity was seen in either study at the very high dose level of 45000 ppm (4.5% in the diet).**
Subject	:	**Rat**

Reference: (ECHA, n.d.)

11.7 Reproductive toxicity

Classification	:	**No classification**
Description	:	**Urea phosphate dissociates directly into urea and phosphoric acid in aqueous environment. Reliable data available on diammonium hydrogen orthophosphate shows a NOAEL for reproduction toxicity after oral exposure of rats of ≥1500 mg/kg bw/day.**
Subjects	:	**Rat**

Reference: (ECHA, n.d.)

11.8 STOT [2] - single exposure

Adverse health effects are considered unlikely, when the product is used according to directions.

[2] "STOT" - Specific target organ toxicity.

Reference: (ECHA, n.d.) & (Pubchem, search, n.d.)

11.9 STOT [2] - repeated exposure

Adverse health effects are considered unlikely, when the product is used according to directions.

[2] "STOT" - Specific target organ toxicity.
Reference: (ECHA, n.d.) & (Pubchem, search, n.d.)

11.10 Aspiration hazard

No data available

Reference: (ECHA, n.d.) & (Pubchem, search, n.d.)

11.11 Route of Exposure and potential effects

Swallowing	:	**Small quantities (such as a tablespoon full) swallowed during normal handling operations are unlikely to cause injury; swallowing amounts larger than that may cause injury. May cause burns to mouth, throat, and stomach.**
Inhalation	:	**May give off gas, vapour or dust that is very irritating or corrosive to the respiratory system.**
Eye exposure	:	**Causes serious eye damage.**
Skin exposure	:	**Causes severe burns.**

Reference: (ECHA, n.d.)

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11.12 Long- and short-term effects

No data available

Reference: (ECHA, n.d.)

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Classification : **Triggers for classification are not met.**

Description : **Urea phosphate will dissociate directly into urea and phosphoric acid in aqueous environment.**

Considering all data, this shows that urea phosphate is of very low toxicity to aquatic organisms with effect values all above 100 mg/L.

Aquatic Toxicity :

Compound	Cas Number	Organism	Species	Time	Measure	Value
Urea	57-13-6	Fish	B. Barna	96-h	LC50[1]	>9100 mg/L
Phosphoric Acid	7664-38-2	Fish	bluegill sunfish.	96-h	LC50[1]	pH 3-3.25
Urea	57-13-6	Aquatic invertebrates	Daphnia Magna	24-h	EC50	>10000 mg/L
Phosphoric Acid	7664-38-2	Aquatic invertebrates	Daphnia Magna	48-h	EC50[1]	>100 mg/L
Urea	57-13-6	Aquatic Algae and Cyanobacteria	blue-green algae	8-d	NOEC	47 mg/L
Phosphoric Acid	7664-38-2	Aquatic Algae and Cyanobacteria	Desmodesmus Subscpicatus	72-h	EC50[1]	>100 mg/L
Urea Phosphate	4861-19-2	Micro-organisms	Activated sludge of a predominantly domestic sewage	3-h	EC50	>100 mg/L

Terrestrial Toxicity :

Compound	Cas Number	Organism	Species	Time	Measure	Value
Urea Phosphate	4861-19-2	Macro-organisms				Not Tested
Urea Phosphate	4861-19-2	Arthropods				Not Tested
Urea Phosphate	4861-19-2	Plant				Not Tested
Urea Phosphate	4861-19-2	Micro organisms				Not Tested
Urea Phosphate	4861-19-2	Birds				Not Justified

[1] *"LC50 /EC50" - (Median Lethal Concentration/Median Effective Concentration) They are the concentrations at which 50% mortality or inhibition of a function (e.g., growth or growth rate) was observed.*

Reference: (ECHA, n.d.) & (Pubchem, search, n.d.)

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12.2 Persistence and degradability

Stability	:	**In aqueous solution, urea phosphate is completely dissociated into urea and phosphoric acid. Hydrolysis of urea phosphate does not occur.**
Biodegradation	:	**Urea is considered to be readily biodegradable. Phosphoric acid is inorganic and biodegradation tests are not applicable. In addition, this substance is dissociated further into different ions.**

Reference: (ECHA, n.d.)

12.3 Bioaccumulate potential

Description	:	**Urea phosphate will dissociate into phosphoric acid and urea in aqueous environment. Phosphoric acid is extremely soluble in water, a simple inorganic salt with such high aqueous solubility will exist in a dissociated form in an aqueous solution. Such a substance has a low potential for bioaccumulation. Urea is also very soluble in water, has a low log Kow and is utilised by fish species as a nutrient and is excreted by some species as a product of protein catabolism.** **Therefore, bioaccumulation is not predicted for urea phosphate.**

Reference: (ECHA, n.d.)

12.4 Mobility in soil

Adsorption	:	**Urea adsorption by the soil was found to increase with increasing concentration of added urea-N and adsorption coefficients ranged from 0.037 to 0.064. Phosphoric acid is not tested due to its inorganic nature and also QSARs not being applicable to these kind of substances. In addition, due to the high solubility of phosphoric acid and its expected low partition coefficient, the adsorption potential is expected to be low.**
Volatilization	:	**No Data**

Reference: (ECHA, n.d.)

12.5 Other adverse effects

Classification	:	**No data available**

SECTION 13: DISPOSAL CONSIDERATIONS

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

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SECTION 14: TRANSPORT INFORMATION

12.1 UN Modelled regulations

Product	:	**Urea Phosphate**
UN Number	:	**Not regulated**
GHS Classification	:	**Skin Corr. 1B**
UN Number	:	**1759**
UN proper shipping name	:	**Corrosive substance, solid**
Transport hazard class(es)	:	**Class 8**
Label	:	
Packing group	:	**II**
Environmentally hazardous	:	**Not regulated**
Special precautions:	:	**ADR/RID**[1] **- Identification: 80 Tunnel: (E)**
		IMDG[2] **- Emergency: F-A, S-B**
		IATA[3] **- Not Specified**
Transport in Bulk according to IMO instructions	:	**Not specified**

Reference: (Hazmat Tool. n.d.) & (BAM. 2021)

[1] ADR/RID - International Carriage of Dangerous Goods by Rail (RID) and by Road (ADR)
[2] IMDG - The International Maritime Dangerous Goods (IMDG)
[3] IATA - International Air Transport Association (IATA)

SECTION 15: REGULATORY INFORMATION

15.1 Safety, Health, and environmental regulations specific for the substance or mixture

Regulations	:	**This Safety Data Sheet conforms to the requirements set by the Department of Agriculture, Land reform and Rural development of the Republic of South Africa, United Nations GHS (Rev 9E) (2021) and SANS 10234:2019, on the 29 March 2022.**
Restrictions	:	**The substance is not subjected to any prohibitions or restriction in South Africa.**
Chemical Safety Assessment:	:	**For this product a chemical safety assessment was not carried out.**

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SECTION 16: OTHER INFORMATION

16.1 Preparation and revision

Latest Version

Version Number	:	**Ver. 3**
Preparation Date	:	**25 August 2022**
Where the changes as made	:	**Complete overall of all data to comply with GHS regulations**

Previous Version

Version Number	:	**Ver. 2**
Preparation date	:	**February 2021**

16.2 Abbreviations and Acronyms

GHS	:	*Globally Harmonized System of Classification and Labelling of Chemicals*
ECHA	:	*European Chemical agency*
AICIS	:	*The Australian Industrial Chemicals Introduction Scheme*
EPA-NZ	:	*Environmental protection agency New Zealand*
ILO (WHO)	:	*International labour organization (World health organization)*
CAS Number	:	*CAS Number is a numerical designation for chemicals that is maintained by the Chemical Abstracts Service (CAS) of the American Chemical Society.*
EC Number	:	*The European Community number (EC number) is a unique identifier that was assigned to substances for regulatory purposes within the European Union by the European Commission.*
H-Statement	:	*Hazard Statement*
P-Statement	:	*Precautionary Statements*
Hazard Statements	:	*H319 - Causes serious eye irritation*
Precautionary Statements	:	*P264 - Wash hands [and …] thoroughly after handling.*
	:	*P265 - Do not touch eyes.*
	:	*P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...*
N/A	:	*Not Applicable*
Not Classified	:	*Data conclusive but not at sufficient levels for classification*
PPE	:	*Personal precautions, protective equipment.*
TWA	:	*Time Weighted Average*
OEL	:	*Occupational Exposure Limits*
STOT	:	*Specific target organ toxicity*
LC50 / EC50	:	*(Median Lethal Concentration/Median Effective Concentration): They are the concentrations at which 50% mortality or inhibition of a function (e.g., growth or growth rate) was observed.*
NOEC	:	*(No Observed Effect Concentration) NOEC is the highest tested concentration for which there are no statistically significant difference of effect when compared to the control group*
ECx	:	*It is the concentrations at which x % (10% for EC10) effect was observed or derived statistically when compared to the control group*
LD0	:	*Lethal Dose 0, represents the dose at which no individuals are expected to die.*
LC0		*Lethal concentration 0, represents the concentration at which no individuals are expected to die.*
LDLo	:	*Lethal dose low, is the lowest dosage of a compound that is introduced to the human body or that of an animal by any means apart from inhalation that will cause the death of the individual.*

16.3 References

BAM. (2021) Dangerous Goods Database. Retrieved From *https://www.dgg.bam.de/quickinfo/en/show/isbj4npg7p6vur5v2cdcc4s2aq*

(The BAM offers with the expert portal TES information and service concerning the transport and packaging of dangerous substances and goods as well as explosives act)

BAUA. (2016). Technical Rule for Hazardous Substances. TRGS 510 Storage of hazardous substances in non-stationary containers. Retrieved from *https://www.baua.de/EN/Service/Legislative-texts-and-technical-rules/Rules/TRGS/TRGS-510.html*

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(ILO-International Labour organization. ILO is a specialized agency of the United Nations. The database data was prepared by an international group of experts on behalf of ILO and WHO, with the financial assistance of the European Commission. © ILO and WHO 2021.)

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16.4 Disclaimer

The information contained in this SDS does not constitute a risk assessment, and should not replace the user's own assessment of risks as required by other health and safety legislation.

This SDS summarises at the date of issue our best knowledge of the health, safety and environmental hazard information related to the product and in particular how to safely handle, use, store and transport the product. Since Kynoch cannot anticipate or control the conditions under which the product may be handled, used, stored, or transported, each user must, prior to usage, review this SDS in the context of how the user intends to handle, use, store or transport the product and beyond, and communicate such information to all relevant parties.

We shall not assume any liability for the accuracy or completeness of the information contained herein or any advice given unless there has been gross negligence on our part.