KYNOCH FERTILIZER

SAFETY DATA SHEET

KynoFulvate Yellow

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 : **KynoFulvate Yellow**

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

1.2 Other means of identification

Description	:	**Potassium Fulvate, Fulvic Acid**
Chemical name [2]	:	**3,7,8-Trihydroxy-3-methyl-10-oxo-1,3,4,10-tetrahydropyrano[4,3-b]chromene-9-carboxylic acid**
CAS Number	:	**479-66-3**
EC Number [3]	:	**610-395-7**

[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	:	**A soil or leaf application to agricultural crops.**
Description	:	**An organic acid to stimulate growth.**
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	Not Classified [1]		
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	Fulvic Acid	479-66-3	Not Listed
ECHA	Fulvic Acid	479-66-3	Not Listed
ILO (WHO)	Fulvic Acid	479-66-3	Not Listed
AICIS	Fulvic Acid	479-66-3	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.)

Pure Fulvic acid is not listed with any of the above organization. The 2 substances below was use as n read across reference.

Reference Substances

Organization	Substance		Classification
ECHA	Humic acids, potassium salts	CAS 68514-28-3	Not Classification
ECHA	Humic acids and fulvic acids extracted from leonardite, reaction product with formaldehyde, potassium hydrogen sulfite, sodium hydrogen sulfite and potassium hydroxide	EC 940-742-0	Not Classification

2.2 GHS Label elements, including precautionary statements

Pictogram : **No Classification**

Pictogram Name : **No Classification**

Signal Word : **No signal word**

Hazard Statements : **No Classification**

Precautionary Statements : **No Classification**

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

2.3 Other hazards that do not result in classification

Hazards : **N/A**

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	:	**Fulvic Acid**
EC Name	:	**Fulvic Acid**
Chemical Formula	:	**$C_{14}H_{12}O_8$**
Molecular Weight	:	**308.24 g/mol**
Nutrient Content	:	**10% Fulvic Acid**
CAS Number	:	**479-66-3**
EC Number	:	**610-395-7**
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 special measures required.**
After inhalation	:	**Avoid inhalation of dust. Ensure sufficiency of fresh air.**
After skin contact	:	**Wash the skin with water. Remove contaminated clothing.**
After eye contact	:	**Flush with water (preferably using eyewash equipment) until irritation subsides. Seek medical advice if symptoms persist.**
After swallowing	:	**Avoid ingestion of substance. If ingested, rinse mouth with water. Get medical aid.**

4.2 Most important symptoms and effects, both acute and delayed

Effects	:	**No data available**		
Symptoms	:	**Inhalation**	-	**No data available**
	:	**Ingestion**	-	**No data available**
	:	**Skin contact**	-	**No data available**
	:	**Eye contact**	-	**No data available**

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available

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SECTION 5: FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing medium

Suitable extinguishing agents	:	**Extinguish with powder, foam, carbon dioxide or water mist.**
Inappropriate extinguishing media	:	**Do not use water stream, as it may spread the fire.**
Notes	:	**Use fire extinguishing methods suitable to surrounding conditions.**

5.2 Specific hazards arise from chemical

Warning	:	**Non-combustible.**
Hazardous Combustion Products	:	**In case of fire may be liberated: Carbon oxides (COx)**
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.**

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment, and emergency procedures

Percussions	:	**Prevent from dusting. Remove spilled product so that it would not get into contact with eyes and skin.**
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.**

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6.3 Methods and material for containment and cleaning up

Small Spill	:	**Contain spilled material if possible. Collect in suitable and properly labelled containers. Absorb with materials such as: sand, earth, vermiculite or diatomaceous earth**
Large Spill	:	**Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in well labelled container for disposal according to local regulations.**

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 ingestion and inhalation. Avoid dust formation. Wear protective gloves/eye protection/face protection/. Do not get in eyes, on skin, or on clothing. Wash hands 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.**
	:	**For precautions see section 2.2.**

7.2 Conditions for safe storage, including any incompatibilities

Storerooms and receptacles	:	**No special requirements.**
One common storage facility	:	**Store away from oxidising agents**
Incompatible Material	:	**Oxidizing agents**
Handling of product	:	**Dry product; Avoid formation of dust and sparks due to static electricity. Avoid prolong exposure.**
Room conditions	:	**Store product in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use.**
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**

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SECTION 8: EXPOSURE CONTROL AND PERSONNEL PROTECTION

8.1 Control Parameters

	Compound	Cas Number		TWA [1]	STEL [2]
South African Labour Department				Not Listed	Not Listed
International Labour organization (ILO)				Not Listed	Not Listed
OCHA				Not Listed	Not Listed

[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	:	**The substance can be absorbed into the body by inhalation and by ingestion.**
Inhalation risk	:	**No data available**
Effects of short-term exposure	:	**No data available**
Effects of long-term or repeated exposure	:	**No data available**

Reference: (ILO, n.d.)

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 : 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).

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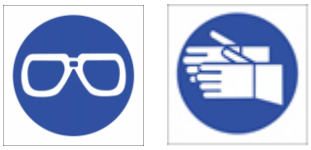
Control of environmental exposure	:	**No special environmental precautions required**



SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Properties

Physical state	:	**Solid [1], Liquid**
Composition	:	**Substance [2]**
Colour	:	**Yellow to dark Blown**
Odour	:	**Odourless to earthy**
Melting point/freezing point	:	**>500°C**
Boiling point or initial boiling point and boiling range	:	**>500°C**
Flammability	:	**Not flammable**
Lower and upper explosion limit/flammability limit	:	**Not determined**
Flash point	:	**No data available**
Auto-ignition temperature	:	**381°C**
Oxidizing Properties	:	**Non-Oxidizer**
Decomposition temperature	:	**110°C**
pH	:	**3.5 – 4.0**
Kinematic viscosity	:	**No data available**
Solubility	:	**700 g/l water @ 20°C**
Partition coefficient: n-octanol/water (log value)	:	**log Pow = -2.16 ± 0.45 (pH = 9.1, 23ºC)**
Vapour pressure	:	**Not Listed**
Density and/or relative density	:	**1.0 - 1.10 g/cm3**
Relative vapour density	:	**Not Listed**
Bulk Density (Volumetric)	:	**No data available**
Particle characteristics	:	**No data available**
Molecular Formula	:	**$C_{14}H_{12}O_8$**
Molecular Weight	:	**308.24 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.) & (Pubchem, search, n.d.)

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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	:	**Avoid contact with Oxidizing agents and heat.**
Incompatible Materials	:	**Oxidizing agents**
Hazardous Decomposition Products	:	**Carbon dioxide (CO2)**

SECTION 11: TOXICOLOGY

11.1 Acute Toxicity

Classification	:	**No Classification**
Description	:	

Fulvic Acis is classified as non-hazardous by The Australian Safety and Compensation Council (ASCC) and Annex I European Directive 67/548/EEC. EINECS No: 479-66-3
No specific test data could be found except for the combination extracted from leonardite below.

Method	Compound	Cas Number	Measure	Value	Subject
Oral	Humic acids, potassium salts	CAS 68514-28-3	LD50[1]	>5000 mg/kg bw[2]	Rat
	Humic acids and fulvic acids extracted from leonardite,	EC 940-742-0	LD50	>2000 mg/kg bw	Rat
Inhalation	Humic acids, potassium salts	the study does not need to be conducted because exposure of humans via inhalation is not likely			
Dermal	Humic acids, potassium salts	CAS 68514-28-3	LD50	>2000 mg/kg bw	Rat
	Humic acids and fulvic acids extracted from leonardite,	EC 940-742-0	LD50	>2000 mg/kg bw	Rat

[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	:	**All symptoms was fully reversible withing 7days.**
Subjects	:	**Rabbit**

Reference: (ECHA, n.d.)

11.3 Serious eye damage/irritation

Classification	:	**No Classification**
Description	:	**Examination of eye irritation after single application demonstrated, that the test substance is not irritating for eye of rabbit. GHS criteria was not met.**
Subjects	:	**Rabbits**

Reference: (ECHA, n.d.)

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11.4 Respiratory or skin sensitisation

Classification	:	**No classification**
Description	:	**In conclusion, at the given experimental conditions the test substance elicited negative result in LLNA test.**
Subjects	:	**Mouse**

Reference: (ECHA, n.d.)

11.5 Germ cell mutagenicity

Classification	:	**No classification**
Description	:	**From the results of three methods follows that the substance is not classified as mutagenic.**
Subjects	:	**Salmonella typhimurium strains**

Reference: (ECHA, n.d.)

11.6 Carcinogenicity

Classification	:	**No data available**

Reference: (ECHA, n.d.)

11.7 Reproductive toxicity

Classification	:	**No classification**
Description	:	**No adverse effect observed**
Subjects	:	**Rat**

Reference: (ECHA, n.d.)

11.8 STOT [2] - single exposure

No data available

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

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

11.9 STOT [2] - repeated exposure

Classification	:	**No Classification**
Description	:	**There are no adverse findings that would trigger the classification for repeat dose effects.**

[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.)

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11.11 Route of Exposure and potential effects

Swallowing	:	**No data available**
Inhalation	:	**No data available**
Eye exposure	:	**No data available**
Skin exposure	:	**No data available**

Reference: (ECHA, n.d.)

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.**

Aquatic Toxicity :

Compound	Cas Number	Organism	Species	Time	Measure	Value
Humic acids and fulvic acids extracted from leonardite,	EC 940-742-0	Fish	Poecilia reticulata	96-h	LC50 [1] [1]	>128 mg/L
Humic acids and fulvic acids extracted from leonardite,	EC 940-742-0	Aquatic invertebrates	Daphnia Magna	48-h	EC50 [1]	>116 mg/L
Humic acids and fulvic acids extracted from leonardite,	EC 940-742-0	Aquatic Algae and Cyanobacteria	Chlorella Vulgaris	10-d	EC50 [1]	>100 mg/L
Humic acids and fulvic acids extracted from leonardite,	EC 940-742-0	Micro-organisms	Activated sludge of a predominantly domestic sewage	3-h	EC50	>1000 mg/L

Terrestrial Toxicity :

Compound	Cas Number	Organism	Species	Time	Measure	Value
Humic acids and fulvic acids extracted from leonardite,	EC 940-742-0	Macro-organisms				Not Tested
Humic acids and fulvic acids extracted from leonardite,	EC 940-742-0	Arthropods				Not Tested
Humic acids and fulvic acids extracted from leonardite,	EC 940-742-0	Plant				Not Tested
Humic acids and fulvic acids extracted from leonardite,	EC 940-742-0	Micro organisms				Not Tested
Humic acids and fulvic acids extracted from leonardite,	EC 940-742-0	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	:	**The half-life times of hydrolysis at all tested pH (4, 7 and 9) and at 25ºC were estimated as higher than 1 year.**
Biodegradation		**Based on results from hydrolysis and screening test in water, the substance is expected to have a slow rate of degradation.**

Reference: (ECHA, n.d.)

12.3 Bioaccumulate potential

Description	:	**the study does not need to be conducted because the substance has a low potential for bioaccumulation based on log Kow <=3**

Reference: (ECHA, n.d.)

12.4 Mobility in soil

Adsorption	:	**Adsorption coefficient of Humic acids, potassium salts on soil: log Koc (soil) < 1.3 (pH = 6.1, 25ºC)**
Volatilization	:	**Volatilization is unlikely due to the properties of the substance.**

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.

SECTION 14: TRANSPORT INFORMATION

12.1 UN Modelled regulations

UN Number	:	**Not regulated**
UN proper shipping name	:	**Not listed**
Transport hazard class(es)	:	**No classification**
Label	:	**No classification**
Packing group	:	**No classification**
Environmentally hazardous	:	**Not regulated**

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Special precautions:	:	**ADR/RID**[1]	-	**Not specified**
		IMDG[2]	-	**Not specified**
		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.**

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*

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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/#list*

(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*

(The German Federal Institute for Occupational Safety and Health offers selected publications in English. Baua's research aims to ensure a safe and healthy working environment that is adapted to the needs of humans.)

Environmental protection agency [EPA]. New Zealand Government. (n.d.) Database search. *Chemical Classification and Information Database (CCID).* Retrieved from *https://www.epa.govt.nz/search/SearchForm?SiteDatabaseSearchFilters=0&Search=10377-60-3*

(EPA-Environmental protection agency. EPA is the government agency responsible for regulating activities that affect Aotearoa New Zealand's environment.)

European Chemicals Agency [ECHA]. (n.d.) Information on Chemicals. Retrieved from *https://echa.europa.eu/registration-dossier/-/registered-dossier/15865/1/1*

(ECHA - European Chemicals Agency. The European Chemicals Agency, is an agency of the EU. They implement the EU's chemicals legislation to protect your health and the environment. There work also contributes to a well-functioning internal market, innovation, and the competitiveness of Europe's chemicals industry.)

Hazmat Tool. (n.d.) Load, Transport and Storage of Hazardous Materials according U.S-Hazardous Materials Regulations (49 CFR). Retrieved from *https://www.hazmattool.com/info.php?submit2=search&info_name=7487-88-9&info_hazclass=+&info_sp01_log=AND&info_sp12_log=AND&info_sp23_log=AND&submit=search*

(Hazmat Tool is a free to search database with information regarding the 49CRF classification and transport)

International Labour organization [ILO]. (n.d.) ICSC database. *International Chemical Safety Cards (ICSCs).* Retrieved from *https://www.ilo.org/dyn/icsc/showcard.display?p_lang=en&p_card_id=1197&p_version=2*

(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.)

OECD. (n.d.) The Global Portal to Information on Chemical Substances. Classification Search. Retrieved from *https://www.echemportal.org/echemportal/ghs-search/*

(OECD allow the search by chemical and provides a list and access to compiled SDS's)

Pubchem, search. (n.d.) Explore Chemistry. *Quickly find chemical information from authoritative sources.* Retrieved from *https://pubchem.ncbi.nlm.nih.gov/compound/Magnesium-sulfate-heptahydrate*

(PubChem is an open chemistry database at the National Institutes of Health (NIH). Pubchem may reference some of the same sources as listed in this document)

Pubchem, GHS. (n.d.) Explore Chemistry. *GHS Classification.* Retrieved from *https://pubchem.ncbi.nlm.nih.gov/ghs/*

(PubChem is an open chemistry database at the National Institutes of Health (NIH). Pubchem may reference some of the same sources as listed in this document)

South African Labour Department. (2021) Regulations for Hazardous Chemical Agents. Retrieved from *https://www.gov.za/sites/default/files/gcis_document/202103/44348rg11263gon280.pdf*

(The Minister of Employment and Labour has, under section 43 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), after consultation with the Advisory Council for Occupational Health and Safety, made the regulations in the Schedule)

The Australian Industrial Chemicals Introduction Scheme [AICIS]. (n.d.) Chemical information. *Search assessments.* Retrieved from *https://www.industrialchemicals.gov.au/chemical-information/search-assessments?assessmentcasnumber=10377-60-3*

(The Australian Industrial Chemicals Introduction Scheme (AICIS) helps protect Australians and the environment by assessing the risks of industrial chemicals and providing information to promote their safe use. Focus mainly on heath aspects.)

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.