



# KYNOCH FERTILIZER

## SAFETY DATA SHEET

### Kynobor

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<sup>1</sup> product identification

Product Name : **Kynobor**

<sup>1</sup> GHS - Globally Harmonized System of Classification and Labelling of Chemicals

### 1.2 Other means of identification

Description : **Disodium Octaborate Tetrahydrate, Solvebor 67**  
Chemical name : **Disodium Octaborate Tetrahydrate**  
CAS Number<sup>2</sup> : **12280-03-4**  
EC Number<sup>3</sup> : **234-541-0**

<sup>2</sup> "CAS Number" - CAS Number is a numerical designation for chemicals that is maintained by the Chemical Abstracts Service (CAS) of the American Chemical Society.

<sup>3</sup> "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**

## 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 <sup>1</sup>		
Health Hazards	Reproductive toxicity	Category 1	H360FD <sup>2</sup>
Environmental Hazards	Not Classified		

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

<sup>1</sup> "Not Classified" – Data conclusive but not at sufficient levels for classification.

<sup>2</sup> "H-Statement" – Hazard Statement. Full decryption in Section16

#### Classification by Organization

Organization	Substance	CAS Number	Classification
EPA-NZ	Boric Acid	10043-35-3	Not Listed
ECHA	Boric Acid	10043-35-3	Rep. Tox. Cat1
ILO (WHO)	Boric Acid	10043-35-3	Rep. Tox. Cat1
AICIS	Boric Acid	10043-35-3	Rep. Tox. Cat1

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 : **Health Hazard, Exclamation**

Signal Word : **Danger**

Hazard Statements : **H360** - **May damage fertility; May damage the unborn child**

Precautionary Statements : **P203** - **Obtain, read and follow all safety instructions before use.**

: **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

: **Non specified**

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

## SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

### 3.1 Substance

Common name	: Kynobor
EC Name	: Disodium Octaborate Tetrahydrate
Chemical Formula	: $\text{Na}_2\text{B}_8\text{O}_{13}\cdot 4\text{H}_2\text{O}$ or $\text{Na}_2\text{O}\cdot 4\text{B}_2\text{O}_3\cdot 4\text{H}_2\text{O}$
Molecular Weight	: 1080.71 g/mol
Nutrient Content	: 20.5% Boron (B)
CAS Number	: 12008-41-2, 12280-03-4
EC Number	: 234-541-0
Impurities and stabilizers	: N/A

Limited information is available for Disodium Octaborate Tetrahydrate. In solution it breaks down to Boric Acid. Therefore the read across principle was applied, and the Boric Acid's data was used for the classification.

Common name	: Boric Acid
EC Name	: Boric Acid
Chemical Formula	: $\text{H}_3\text{BO}_3$
Molecular Weight	: 61.84 g/mol
Nutrient Content	: 17% Boron (B)
CAS Number	: 10043-35-3
EC Number	: 233-139-2
Impurities and stabilizers	: N/A

<sup>1</sup> "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	: Supply fresh air. Consult doctor in case of complaints.
After skin contact	: Remove affected clothing. Immediately rinse with water (can use mild soap). If skin irritation continues, consult a doctor.
After eye contact	: Rinse opened eye for several minutes under running water (remove contact lenses if easily possible). Seek medical treatment.
After swallowing	: Rinse out mouth. Make victim drink water (maximum of 2 drinking glasses). Do NOT induce vomiting. If symptoms persist consult doctor.

### 4.2 Most important symptoms and effects, both acute and delayed

Effects	: The substance is irritating to the respiratory tract. May cause mechanical irritation to the eyes. The substance may cause effects on the central nervous system and kidneys. This may result in impaired functions.
Symptoms	: Inhalation - Cough. Sore throat. : Ingestion - Nausea. Vomiting. Diarrhoea. Abdominal pain. Skin rash. Headache. Drowsiness. Convulsions. : Skin contact - No acute symptoms expected. : Eye contact - Redness, pain.

### 4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available

## SECTION 5: FIRE-FIGHTING MEASURES

### 5.1 Suitable extinguishing medium

Suitable extinguishing agents	: <b>Not Specified</b>
Inappropriate extinguishing media	: <b>Not Specified</b>
Notes	: <b>Use fire extinguishing methods suitable to surrounding conditions.</b>

### 5.2 Specific hazards arise from chemical

Warning	: <b>Boric acid is not flammable, combustible or explosive. The substance is a flame retardant.</b>
Hazardous Combustion Products	: <b>Gives off irritating or toxic fumes (or gases) in a fire.</b>
Fire hazard	: <b>Non-flammable substance</b>
Explosion hazard	: <b>Not applicable</b>
Reactivity	: <b>None</b>

### 5.3 Special protective action for Fire-Fighters

Special protective actions for fire-fighters	: <b>Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire.</b> : <b>No action shall be taken involving any personal risk or without suitable training.</b>
Special protective equipment for fire-fighters	: <b>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.</b> : <b>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.</b>

## 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.

<sup>1</sup> 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. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor.
Large Spill	: Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements, or confined areas. Vacuum or sweep up material and place in a designated, 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 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	: Not Specified
----------------------------	-----------------

- One common storage facility : **Separated from strong bases.**
  - Handling of product : **No special handling precautions are required.**  
**Good housekeeping procedures should be followed to minimise dust generation.**
  - Room conditions : **Dry, indoor storage is recommended.**
  - Storage Class : **(TRGS 510): 10 - 13 Other liquids and solids: Non-Combustible Solids**
- Reference: (BAUA, 2016)

### 7.3 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 <sup>1</sup>	STEL <sup>2</sup>
South African Labour Department	Boric Acid	10043-35-3		Not Listed	Not Listed
International Labour organization (ILO)	Boric Acid	10043-35-3	TVL	2 mg/m3	6 mg/m3
ECHA	Boric Acid	10043-35-3		Not Listed	Not Listed

<sup>1</sup> TWA – Long term exposure: Time Weighted Average (8-hour period)

<sup>2</sup> 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 of dust and by ingestion.**
- Inhalation risk : **Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly , especially if powdered.**
- Effects of short-term exposure : **The substance is irritating to the respiratory tract. May cause mechanical irritation to the eyes. The substance may cause effects on the central nervous system and kidneys. This may result in impaired functions.**
- Effects of long-term or repeated exposure : **Repeated or prolonged contact with skin may cause dermatitis. The substance may have effects on the testes. Animal tests show that this substance possibly causes toxicity to human reproduction or development.**

Reference: (ILO, n.d.)

### 8.2 Appropriate 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	: <b>Handle with gloves.</b> 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	: <b>Respiratory protection only necessary if risk assessment indicates this.</b> 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	<b>No special environmental precautions required</b>



## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Properties

Physical state	: <b>Solid<sup>1</sup></b>
Composition	: <b>Substance<sup>2</sup></b>
Colour	: <b>Colourless to White</b>
Odour	: <b>Odourless</b>
Melting point/freezing point	: <b>No melting point could be established. Decomposes above 100°C</b>
Boiling point or initial boiling point and boiling range	: <b>The study does not need to be conducted because the substance is a solid which decomposes before boiling</b>
Flammability	: <b>Product is not flammable, no ignition on contact with air</b>
Lower and upper explosion limit/flammability limit	: <b>Not determined</b>
Flash point	: <b>The study does not need to be conducted because the substance is inorganic.</b>
Auto-ignition temperature	: <b>No self-ignition observed under the test conditions</b>
Oxidizing Properties	: <b>The study does not need to be conducted because there are no chemical groups present in the molecule which are associated with oxidising properties and hence, the classification procedure does not need to be applied</b>
Decomposition temperature	: <b>Above 100°C</b>
pH	: <b>3,8-4,8 (3,3 % aqueous solution)</b>

Kinematic viscosity	: Not applicable
Solubility	: 48.8 g/l water @ 25°C
Partition coefficient: n-octanol/water (log value)	: -1.09Log Kow at 22°C
Vapour pressure	: 0Pa at 20°C
Density and/or relative density	: 1.489 g/cm <sup>3</sup> @ 20°C
Relative vapour density	: Not determined
Bulk Density (Volumetric)	: 768-845 kg/m <sup>3</sup>
Particle characteristics	: 10% was <33.7 µm 50% was <75.4 µm 90% < 151.8 µm
Molecular Formula	: H <sub>2</sub> BO <sub>3</sub>
Molecular Weight	: 61.84 g/mol

<sup>1</sup> "Solid" – Is a substance that cannot be classified as a liquid or Gas.

<sup>2</sup> "Substance" – Is chemical elements and their compounds in their natural state or obtained by production process)

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

## SECTION 10: STABILITY AND REACTIVITY

Reactivity	: Contact with combustible materials may cause fire. Contact with base release ammonia.
Chemical stability	: Stable under normal conditions
Hazardous Reactions	: Reaction with strong reducing agents such as metal hydrides or alkali metals will generate hydrogen gas which could create an explosive hazard.
Conditions to Avoid	: Not Specified
Incompatible Materials	: Separated from strong bases.
Hazardous Decomposition Products	: None

Reference: (ECHA, n.d.) & (ILO, n.d.)

## SECTION 11: TOXICOLOGY

### 11.1 Acute Toxicity

Classification	: No Classification
Description	: Boric acid is not classified for the oral, dermal or inhalation routes, as the LD50 values exceed the limit for classification

Method	Compound	Cas Number	Measure	Value	Subject
Oral	Boric Acid	10043-35-3	LD50	3450 mg/kg	Rat
Inhalation	Boric Acid	10043-35-3	LD50	2.03 mg/m <sup>3</sup>	Rat
Dermal	Boric Acid	10043-35-3	LD50	>2000mg/kg	Rat

<sup>1</sup> "LD50" – Lethal Doses. The dosage at which 50% mortality was observed.

<sup>2</sup> "LDLo" - The 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.

<sup>3</sup> "LC0" – The lethal concentration 0 represents the concentration at which no individuals are expected to die.

<sup>4</sup> "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	: No irritancy was observed.
Subjects	: Rabbits

Reference: (ECHA, n.d.)

## 11.3 Serious eye damage/irritation

Classification	: No Classification
Description	: Toxicity Category III - corneal involvement or irritation clearing in 7 days or less.
Subjects	: Rabbits

Reference: (ECHA, n.d.)

## 11.4 Respiratory or skin sensitisation

Classification	: No classification
Description	: Very faint erythema was observed in one animal at induction stage and 2 animals at challenge stage and also in one naïve control. No other adverse effects were observed therefore the test substance was considered a non-sensitiser.
Subjects	: Guinea pig

Reference: (ECHA, n.d.)

## 11.5 Germ cell mutagenicity

Classification	: No classification
Description	: All the data in vitro indicate no mutagenic activity. In addition the single in vivo study on boric acid also indicated no mutagenic activity.
Subjects	: bacteria

Reference: (ECHA, n.d.)

## 11.6 Carcinogenicity

Classification	: No classification
Description	: An OECD 451 equivalent study in B6C3F1 mice consisting of 50 per sex per group treated in diet for 103 weeks with 0, 2500 or 5000 ppm boric acid showed no evidence of carcinogenicity
Subjects	: Mouse

Reference: (ECHA, n.d.)

## 11.7 Reproductive toxicity

Classification	: Boric acid is classified under the 1st ATP to CLP as Repr. 1B; H360FD.
Description	: Effects on male fertility have been investigated in detail. A dose related effect on the testis was observed in rats, mice and deer mice, with confirmation from limited studies in dogs. Effects in rats start with reversible inhibition of spermiation after 14 days (at 39 mg B/kg bw/day)

and 28 days (at 26 mg B/kg bw/day).

Subjects : Rat

Reference: (ECHA, n.d.)

### 11.8 STOT<sup>2</sup> - single exposure

Classification : No data available

<sup>2</sup> "STOT" - Specific target organ toxicity.

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

### 11.9 STOT<sup>2</sup> - repeated exposure

Classification : Repr. 1B; H360FD.

Description : Most studies support that boron can cause adverse haematological effects and that the main target organ of boron toxicity is the testis. Other effects observed at high doses include rapid respiration, hunched position, bloody nasal discharge; urine stains on the abdomen, inflamed bleeding eyes, desquamation and swollen paws and tail, reduced food consumption and body weight gain.

<sup>2</sup> "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 : Convulsions. Headache. Nausea. Vomiting.

Inhalation : Cough. Shortness of breath. Sore throat.

Eye exposure : Redness

Skin exposure : No symptoms

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
----------	------------	----------	---------	------	---------	-------

Boric Acid	10043-35-3	Fish Fish	Fathead minnow fish	96-h	LC50	79.7 mg/L
			Pimephales promelas	32-d	NOEC	11.2 mg/L
Boric Acid	10043-35-3	Aquatic invertebrates	marine shrimp	48-h	EC50	130 mg/L
			Americamysis bahia		NOEC	33.1 mg/L
Boric Acid	10043-35-3	Aquatic Algae and Cyanobacteria	Pseudokirchneriella subcapitata	Unknown	EC50	52.4 mg/L
Boric Acid	10043-35-3	Microorganisms	Opercularia bimarginata-	Unknown	NOEC	10 mg/L

## Terrestrial Toxicity

:

Compound	Cas Number	Organism	Species	Time	Measure	Value
Boric Acid	10043-35-3	Macro-organisms	9 Species	24-d	NOEC	5.2 – 315 mg/kg dw
Boric Acid	10043-35-3	Anthropoids	Folsomia candida	28-d	LC50	27.8 mg/kg soil dw
Boric Acid	10043-35-3	Terrestrial plants	Unknown	Unknown	NOEC	3 - 84 mg/kg soil dw
Boric Acid	10043-35-3	Above-ground organisms	Unknown	Unknown	NOEC	3 – 419mg kg/ soil dw

<sup>1</sup> "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.

<sup>2</sup> "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.

<sup>3</sup> "ECx" - It is the concentrations at which x % (10% for EC10) effect was observed or derived statistically when compared to the control group.

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

## 12.2 Persistence and degradability

Stability	: Boron as a natural element is not degradable. However, boron and its inorganic compounds are subject to chemical transformation processes (adsorption, complexation, precipitation, fixation) once released to the environment. One consequence of the transformation is that the mobility/bioavailability and the potential for toxicity, induced by the borate species, is changed and in many cases reduced or even removed over time.
Hydrolysis	study scientifically not necessary / other information available
Photorefracton	Boric acid is therefore considered to be resistant to photochemical degradation.
Biodegradation	Boric acid is an inorganic compound and not degradable. It is not subject to hydrolysis, photodegradation or biodegradation. Other borates yield boric acid upon dissolution in water (or borate anion in higher pH conditions)

Reference: (ECHA, n.d.)

## 12.3 Bioaccumulate potential

Description	: The WHO (1998) review of boron noted that highly water soluble materials are unlikely to bioaccumulate to any significant degree and that borate species are all present essentially as undissociated and highly soluble
-------------	--

boric acid at neutral pH. Borates are not significantly bioaccumulated.

Reference: (ECHA, n.d.)

## 12.4 Mobility in soil

- Adsorption : Boron was reported to react more strongly with clay than sandy soils (Keren and Bingham, 1985). The rate of boron adsorption on clay minerals is likely to consist of a continuum of fast adsorption reactions and slow fixation reactions. Short-term experiments have shown that boron adsorption reaches an apparent equilibrium in less than one day (Hingston, 1964; Keren et al., 1981). Long-term experiments showed that fixation of boron continued even after six months of reaction time (Jasmund and Lindner, 1973). The magnitude of boron adsorption onto clay minerals is affected by the exchangeable cation. Calcium-rich clays adsorb more boron than sodium and potassium clays (Keren and Gast, 1981; Keren and O'Connor, 1982; Mattigod et al., 1985). A higher organic matter content increases the B-retention capacity of soil (Yermiyahu et al., 2001). Sorbed boron amounts and boron retention maxima have been significantly correlated with organic carbon content (Gupta, 1968).
- Volatilization : The vapour pressure for boric acid is extremely low so volatilization is expected to be minimal.

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
- Packing group : No classification
- Environmentally hazardous : No classification
- Special precautions: : ADR/RID<sup>1</sup> - Not specified  
IMDG<sup>2</sup> - Not specified  
IATA<sup>3</sup> - Not Specified

Transport in Bulk according to IMO : **MHB**  
instructions

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

<sup>1</sup> ADR/RID - International Carriage of Dangerous Goods by Rail (RID) and by Road (ADR)

<sup>2</sup> IMDG - The International Maritime Dangerous Goods (IMDG)

<sup>3</sup> 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
- Not Classified* : Data conclusive but not at sufficient levels for classification
- PPE* : Personal precautions, protective equipment.
- TWA* : Time Weighted Average

OEEL	:	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=>

(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/15075/1/1>

(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. Their 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?language=en/>

(Hazmat Tool is a free to search database with information regarding the 49CFR 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=1037&p\\_version=2](https://www.ilo.org/dyn/icsc/showcard.display?p_lang=en&p_card_id=1037&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.)

**Minema Chemicals (2022)** Search for MSDS or Specification Documents. Retrieved from <http://www.minema.co.za/msds/A7000>

(MINEMA Chemicals provide MSDS information and documentation on a variety of chemicals)

**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/16211656>

(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](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=15245-12-2>

(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 health 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.