KYNOCH FERTILIZER

SAFETY DATA SHEET

Date Issued / Revised Date	:	*12 July 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**

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

1.2 Other means of identification

Description : **Urea Granular**

Chemical name : **Carbamide or Carbonyldiamine**

CAS Number[2] : **57-13-6**

EC Number[3] : **200-315-5**

[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	Eye Irritation	Category 2A	H319 [2]
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

EPA-NZ	:	Eye Irritation, Cat 2A
ECHA	:	Not Classified
ILO (WHO)	:	Not Classified
AICIS	:	Poses no unreasonable risk to human health

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 : **Exclamation**

Signal Word : **Warning**

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/...**

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

2.3 Other hazards that do not result in classification

Other : **Slippery When Wet**

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SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substance

Common name	:	**Urea Granular**
EC Name		**Carbamide**
Chemical Formula	:	**CH_4N_2O**
Molecular Weight	:	**60,05 g/mol**
Nutrient Content	:	**46% N**
CAS Number	:	**57-13-6**
EC Number	:	**200-315-5**
Impurities and stabilizers	:	**N/A**[1]

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

3.2 Mixture

N/A[1]

[1] *N/A – 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	:	**Immediately rinse with water. 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). If symptoms persist consult doctor.**

4.2 Most important symptoms and effects, both acute and delayed

Eye Contact	:	**Can cause serous eye irritation**

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	:	**Water, CO2, foam, powder**
Inappropriate extinguishing media	:	**No information available**
Notes	:	**Use fire extinguishing methods suitable to surrounding conditions.**

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5.2 Specific hazards arise from chemical

Warning	:	**Formation of toxic gases is possible during heating or in case of fire.**
Hazardous Combustion Products	:	**Nitrogen oxides (NOx). Carbon monoxide (CO). Carbon dioxide (CO2). Ammonia.**

5.3 Special protective action for Fire-Fighters

Special firefighting procedures	:	**Wear self-contained breathing apparatus, irritating substances may be emitted upon thermal combustion**

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Percussions	:	**Avoid formation of dust. Do not inhale dust. Ensure adequate ventilation.**
Equipment	:	**Non-emergency personnel - Use personal protective equipment as required. See Section 8. Emergency personnel[1] PPE – No information available**
Procedure	:	**Evacuate dangerous areas.**

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

6.2 Environmental precautions

	:	**Prevent large quantities from contacting vegetation or waterways.**
	:	**Keep animals away from large spills.**
	:	**Do not let product enter drains.**

6.3 Methods and material for containment and cleaning up

Solid	:	**Cover drains. Vacuum, sweep or shovel the material into container and cover. Avoid generation of dusts. If appropriate, slightly moisten first to prevent dusting. Wash away remainder with plenty of water.**
Solution	:	**Cover drains. Construct barriers to contain solutions or divert to impermeable holding area. Collect, bind, and pump off spills. Remove material by manual or mechanical means.**

6.4 Reference to other sections

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

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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.**
Handling of product	:	**Keep container tightly closed.**
Room conditions	:	**Keep in a dry, well-ventilated place. Recommended storage temperature 2 - 8 °C (Room temperature)**
Storage Class	:	**(TRGS 510): 13: Non-Combustible Solids**

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[1]	STEL[2]
South African Labour Department	Urea	57-13-6	Not Listed	Not Listed
American Industrial Hygiene Association	Urea	57-13-6	10 g/m^3	Not Listed

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

Reference: (South African Labour Department, 2021) & (Pubchem, search, n.d. / Referencing AIHA)

Routes of exposure	:	**The substance can be absorbed into the body by inhalation of its aerosol and by ingestion.**
Inhalation risk	:	**Evaporation at 20°C is negligible; a nuisance-causing concentration of airborne particles can, however, be reached quickly, especially if powdered.**
Effects of short-term exposure	:	**Contact can irritate the skin and eyes**
Effects of long-term or repeated exposure	:	**Repeated exposure to ammonia may cause chronic irritation of the respiratory tract.**

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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	:	**Handle with gloves.** 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	:	**Respiratory protection is not required.** 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	:	**Ammonia-like**
Melting point/freezing point	:	**133-134 °C**
Boiling point or initial boiling point and boiling range	:	**Decomposes**
Flammability	:	**Product is not flammable**
Lower and upper explosion limit/flammability limit	:	**Not determined**
Flash point	:	**Not applicable**

Auto-ignition temperature	:	**Not determined**
Decomposition temperature	:	**≥133 °C**
pH	:	**~9**
Kinematic viscosity	:	**Not applicable**
Solubility	:	**590-1080 g/l water @ 20°C**
Partition coefficient: n-octanol/water (log value)	:	**-1.73002 @ 20°C**
Vapour pressure	:	**1.2X10-5 mm Hg @ 25 °C**
Density and/or relative density	:	**1.323 g/cm³ @ 20°C**
Relative vapour density	:	**Not determined**
Bulk Density	:	**725-760 kg/m³**
Particle characteristics	:	**between 0.1 - 5mm**
Molecular Formula	:	**C H4 N2 O**
Molecular Weight	:	**60.06 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.) & (ILO, n.d.) & (Pubchem, search, n.d.)

SECTION 10: STABILITY AND REACTIVITY

Reactivity	:	**None known, based on information available**
Chemical stability	:	**Stable under normal conditions**
Hazardous Reactions	:	**None under normal processing**
Conditions to Avoid	:	**Incompatible products**
Incompatible Materials	:	**Strong oxidizing agents, Chlorine, sodium hypochlorite**
Hazardous Decomposition Products	:	**Products Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO2), Ammonia**

Reference: Minema Chemicals (2022)

SECTION 11: TOXICOLOGY

11.1 Acute Toxicity

Classification	:	**No classification**
Description	:	**Urea is of very low acute toxicity by all routes investigated**

Method	Compound	Cas Number	LD50[1]	Subject
Oral	Urea	57-13-6	14.3-15 g/kg	Rat
			11.5-13 g/kg	Mouse
Dermal	No data are available. Urea is demonstrated to be of very low acute toxicity by the oral, subcutaneous and intravenous routes in the rat and mouse. Testing for acute dermal toxicity is not justified.			
Inhalation	No data are available. The substance is a non-volatile solid and is produced as crystals with a particle size of >100 µm. There is therefore no potential for inhalation exposure.			

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Subcutaneous	Urea	57-13-6	8.2-9.4 g/kg	Rat
			9.2-10.7 g/kg	Mouse
Intravenous	Urea	57-13-6	5.3-5.4 g/kg	Rat
			4.6-5.2 g/kg	Mouse

[1] *"LD50" – Lethal Doses. The dosage at which 50% mortality was observed.*

Reference: (ECHA, n.d.)

11.2 Skin corrosion/irritation

Classification : **No classification**

Description : **There is no evidence from animal studies or from human experience that urea is a skin irritant. Urea is of very low acute toxicity by all routes investigated. On abraded skin there could be irritation.**

Subjects : **Humans, Rabbits**

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

11.3 Serious eye damage/irritation

Classification : **Eye Irritation, Category 2A**

Description : **Although a classification as eye irritant would be required according to CLP, medical surveillance data show no adverse effects on eyes following direct contact.**

Subjects : **Humans, Rabbits**

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

11.4 Respiratory or skin sensitisation

Classification : **No classification**

Description : **There is no indication that urea is a skin sensitiser or a respiratory sensitiser.**

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

11.5 Germ cell mutagenicity

: **No classification**

: **Urea is produced by the body in large quantities as a normal product of metabolism and is present in the bloodstream at high concentrations. Urea is therefore considered extremely unlikely to be genotoxic.**

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

11.6 Carcinogenicity

: **No classification**

: **There is no evidence from animal studies that urea is carcinogenic. The physiological role of urea and level of production by the human body indicates that the substance is not carcinogenic.**

: **Rat and Mouse**

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

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11.7 Reproductive toxicity

: **No study available**

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

No data available

[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	:	**Convulsions. Headache. Nausea. Vomiting.**
Inhalation	:	**Cough. Shortness of breath. Sore throat**
Eye exposure	:	**Redness**
Skin exposure	:	**Redness**

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

11.12 Long- and short-term effects

Route	Local/Systemic	Time of exposure	DNEL (Derived No Effect Level)
Inhalation	Systematic	Long term exposure	3 526 mg/m³
		Acute/short term exposure	3 526 mg/m³
	Local	Long term exposure	hazard unknown but no further hazard information necessary as no exposure expected
		Acute/short term exposure	hazard unknown but no further hazard information necessary as no exposure expected
Dermal	Systematic	Long term exposure	500 mg/kg bw/day
		Acute/short term exposure	500 mg/kg bw/day
	Local	Long term exposure	no hazard identified
		Acute/short term exposure	no hazard identified
Eye	Local		no hazard identified

Reference: (ECHA, n.d.)

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SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

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

Aquatic Toxicity :

Compound	Cas Number	Organism	Species	Time	Measure	Value
Urea	57-13-6	Fish	Danio	96-h	LC50[1]	21 060 mg/L
Urea	57-13-6	Fish	Mozambique Tilapia	28-d	EC10[3]	7 250 mg/L
Urea	57-13-6	Aquatic invertebrates	Daphnia	24-h	EC50[1]	>10 000 mg/L
Urea	57-13-6	Aquatic invertebrates	Daphnia	21-d	EC10[3]	141 mg/L
Urea	57-13-6	Aquatic Algae and Cyanobacteria	Green alga	92-h	EC50[1]	24 542 mg/L
				72-h	EC10[3]	6 896 mg/L
Urea	57-13-6	microorganisms	Pseudomonas putida	72-h	EC50[1]	>10 000 mg/L

Terrestrial Toxicity :

Compound	Cas Number	Organism	Species	Time	Measure	Value
Urea	57-13-6	Micro-organisms	-	24-d	NOEC[2]	> 2358 mg urea/kg dw
Urea	57-13-6	Macro-organisms	Earthworms	14-d	LC50[1]	2 000 mg/kg soil dw
Urea	57-13-6	Macro-organisms	Earthworms	60-d	EC10[3]	160 mg/kg soil dw
Urea	57-13-6	Anthropoids	Collembola, Mites, bees	36-w	NOED[2]	640 mg/kg soil dw
Urea	57-13-6	Terrestrial plants	Mono and Dicots	7-d	EC10[3]	1 000 mg/kg soil dw
Urea	57-13-6	Birds	Chickens	21-d	LC50[1]	> 150 g/kg feed
Urea	57-13-6	Above-ground organisms	amphibians	96-h	LC50[1]	> 482 kg/ha
Urea	57-13-6	Above-ground organisms	Various mammals (39 different groups/species)	-	NOEC[2]	> 1 600 kg/ha
Urea	57-13-6	Above-ground organisms	Ruminants, Cattle, Sheep	24-h	LD0[4]	1 000 mg/kg bw
Urea	57-13-6	Above-ground organisms	Cattle	56-d	LD0[4]	600 mg/kg bw
Urea	57-13-6	Above-ground organisms	Ruminants, Deer, Moose	-	LD0[4]	500 mg/kg bw

[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.
[2] "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.
[3] "ECx" - It is the concentrations at which x % (10% for EC10) effect was observed or derived statistically when compared to the control group.
[4] "LD0" Lethal Dose. Represents the dose at which no individuals are expected to die.

Reference: (ECHA, n.d.)

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12.2 Persistence and degradability

Classification : **No data available**

12.3 Bioaccumulate potential

Classification : **No data available**

12.4 Mobility in soil

Classification : **No data available**

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

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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	:	**12 July 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. Represents the dose at which no individuals are expected to die.*

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16.3 References

BAM. (2021) Dangerous Goods Database. https://www.dgg.bam.de/quickinfo/en/show/kcvi54ygzfpw4ctfc3j6wyeowe/

(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)

Environmental protection agency [EPA]. New Zealand Government. (n.d.) Database search. *Chemical Classification and Information Database (CCID).* Retrieved from https://www.industrialchemicals.gov.au/chemical-information/search-assessments?assessmentcasnumber=57-13-6/

(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. *Reach, registered substance factsheets.* Retrieved from https://echa.europa.eu/registration-dossier/-/registered-dossier/16152/

(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). https://www.hazmattool.com/info.php?language=en/

(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=0595&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/U7500

(MINEMA Chemicals provide MSDS information and documentation on a veriety 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/1176/

(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=57-13-6/

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(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.