



KYNOCH FERTILIZER

SAFETY DATA SHEET

Ammonium Nitrate 35 Granular

Date Issued / Revised Date : 25 September 2022
New version : 3.0
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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 GHS¹ product identification

Product Name : **Ammonium Nitrate 35 Granular**

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

1.2 Other means of identification

Description : **Ammonium Nitrate 35 Physical**

Chemical name : **Ammonium nitrate**

CAS Number² : **6484-52-2**

EC Number³ : **229-347-8**

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
Kynoch - 086 092 7272**

SECTION 2: HAZARD IDENTIFICATION

2.1 Classification of substance or mixture

Product Defined : **Mono-constituent substance**

Summarized Classification

| Types of Hazards | Hazard Class | Category/subcategory | H-Statement |
|-----------------------|-----------------------------------|----------------------|-------------------|
| Physical Hazards | Oxid. Solid 3 | Category 3 | H272 ² |
| Health Hazards | Serious eye damage/eye irritation | Category 2A | H319 ² |
| | Acute Toxicity ¹ | Category 5 | H303 |
| Environmental Hazards | Not Classified | | |

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 Section 16

Classification by Organization

| | |
|-----------|--|
| EPA-NZ | : Not Listed |
| ECHA | : Oxid. Solid 3, Eye Damage 2A, Acute Tox. Oral Cat 5 |
| ILO (WHO) | : Oxid. Solid 3, Eye Damage 2, Skin Irritation Cat 2, STOT single Cat2 |
| AICIS | : Eye Damage 2 |

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

: **Flame over circle, Exclamation mark**

Signal Word

: **Danger**

Hazard Statements

: **H272 - May intensify fire; oxidiser**
H303 - May be harmful if swallowed
H319 - Causes serious eye irritation

Precautionary Statements

: **P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.**
P220 - Keep away from clothing or other combustible materials.
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

: **Non specified**

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

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substance

| | |
|----------------------------|--|
| Common name | : Ammonium nitrate |
| EC Name | : Ammonium nitrate |
| Chemical Formula | : H₃N.HNO₃ / NH₄NO₃ |
| Molecular Weight | : 80 g/mol |
| Nutrient Content | : 35% Total Nitrogen (N), 17.5% Ammonium (NH₄), 17.5% Nitrate (NO₃) |
| CAS Number | : 6484-52-2 |
| EC Number | : 229-347-8 |
| Impurities and stabilizers | : N/A |

¹ "N/A" – Not available

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

3.2 Mixture

| | |
|------------|--------------|
| Components | : N/A |
|------------|--------------|

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

| | |
|---------------------|--|
| General information | : Not Specified. |
| After inhalation | : If inhaled, remove to fresh air. Obtain medical attention if symptoms occur. |
| After skin contact | : Rinse with plenty of running water. Remove contaminated clothing and shoes. Obtain medical attention if symptoms occur. |
| After eye contact | : Rinse with plenty of running water. Obtain medical attention if symptoms occur. |
| After swallowing | : Rinse out mouth. Make victim drink water (maximum of 2 drinking glasses). Do NOT induce vomiting. If symptoms persist consult doctor. |

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

4.2 Most important symptoms and effects, both acute and delayed

| | |
|---------|---|
| Effects | : The substance is irritating to the eyes, skin and respiratory tract. The substance may cause effects on the blood. This may result in the formation of methaemoglobin. The effects may be delayed. |
|---------|---|

| | | |
|----------|----------------|---|
| Symptoms | : Inhalation | - Cough. |
| | : Ingestion | - Vomiting. Diarrhoea. Blue lips, fingernails and skin. Weakness. |
| | : Skin contact | - Redness |
| | : Eye contact | - Redness, pain. |

Reference: (International Labour organization [ILO]. (n.d.)

4.3 Indication of any immediate medical attention and special treatment needed

| | |
|--------------------------|---|
| Note to Physician | : Inhalation of fire and thermal decomposition gases, containing oxides of nitrogen and ammonia, can cause irritation and corrosive effects on the respiratory system. Some lung effects may be delayed. Give oxygen, especially if there is blueness around the mouth. |
|--------------------------|---|

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing medium

| | |
|-----------------------------------|---|
| Suitable extinguishing agents | : Water - Use flooding quantities of water for extinction. |
| Inappropriate extinguishing media | : Do NOT use chemical extinguisher or foam or attempt to smother the fire with steam or sand. <ul style="list-style-type: none"> • Sand • Foam • Carbon dioxide (CO₂) • Dry chemical |
| Notes | : Use fire extinguishing methods suitable to surrounding conditions. |

5.2 Specific hazards arise from chemical

| | |
|-------------------------------|---|
| Warning | : Not combustible but enhances combustion of other substances. Gives off irritating or toxic fumes (or gases) in a fire. Risk of fire and explosion on confinement and exposure to high temperatures or when contaminated with other materials. |
| Hazardous Combustion Products | : Nitrous gases (Nox) oxides of nitrogen |
| 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 | : Fire fighters should use water to keep fire exposed containers cool and disperse vapour. |
| | : Move container from fire area if it can be done without risk. |
| | : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. |

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

¹ PPE – Personal precautions, protective equipment.

6.2 Environmental precautions

- : 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 : Use with adequate ventilation. Local exhaust ventilation should be provided. Avoid possible sources of ignition (spark or flame). Avoid contamination by any source including metals, dust and organic materials.
- : For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

- Storerooms and receptacles : Store in a dry place. Hygroscopic solid.
- One common storage facility : Keep away from heat and precaution to avoid mixing with combustible materials, reducing agents, alkalies and metals.
- : Incompatible products: Separate from reducing agents and combustible materials. Keep away from acids or bases.
- : Incompatible materials : Sources of ignition. Direct sunlight. On farm keep away from hay, grain, diesel, etc.
- Handling of product : Keep container tightly closed.
- Room conditions : Keep in a dry, well-ventilated place. Recommended storage temperature at < 30°C. (Room temperature). DO NOT expose the substance to temperatures above 50 °C.
- : Protect against humidity (product is hygroscopic and tends to cake or disintegrate)
- 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 ¹ | STEL ² |
|---|------------------|------------|--|------------------|-------------------|
| South African Labour Department | Ammonium Nitrate | 6484-52-2 | | Not Listed | Not Listed |
| International Labour organization (ILO) | Ammonium Nitrate | 6484-52-2 | | Not Listed | Not Listed |
| OCHA | Ammonium Nitrate | 6484-52-2 | | Lot 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 | : Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly when dispersed, especially if powdered. |
| Effects of short-term exposure | : The substance is irritating to the eyes, skin and respiratory tract. The substance may cause effects on the blood. This may result in the formation of methaemoglobin. The effects may be delayed. |
| Effects of long-term or repeated exposure | : Not listed |

Reference: (European Chemical Agency [ECHA], n.d.) & (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 Section 7.**

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 to pale-grey |
| Odour | : Odourless |
| Melting point/freezing point | : 170°C |
| Boiling point or initial boiling point and boiling range | : the study does not need to be conducted because the substance is a solid which decomposes before boiling |
| Flammability | : Product is not flammable |
| Lower and upper explosion limit/flammability limit | : non explosive |
| Flash point | : the study does not need to be conducted because the flash point is only relevant to liquids and low melting point solids |
| Auto-ignition temperature | : Not a self heating substance |
| Oxidizing Properties | : Yes (Classification: Oxidising, solid - Category 3) |
| Decomposition temperature | : Above 210°C |
| pH | : pH of a 0.1M solution of ammonium nitrate in water: 5.43 |
| Kinematic viscosity | : the study does not need to be conducted because the substance is a solid |
| Solubility | : 200 g/l water @ 20°C |
| Partition coefficient: n-octanol/water (log value) | : the study does not need to be conducted because the substance is inorganic |
| Vapour pressure | : Not determined |
| Density and/or relative density | : 1.7 g/cm³ @ 20°C |
| Relative vapour density | : Not determined |
| Bulk Density (Volumetric) | : 1 300 kg/m³ |
| Particle characteristics | : Prilled ammonium nitrate contains no inhalable fraction (0% < 200 µm). |
| Molecular Formula | : NH₄NO₃ |
| Molecular Weight | : 80 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.)

SECTION 10: STABILITY AND REACTIVITY

| | |
|--------------------|--|
| Reactivity | : Deliquescent. Water soluble. An oxidizing agent. Noncombustible but accelerates the burning of combustible materials. Prolonged exposure to fire or heat may result in an explosion. May explode if shocked or heated [Hawley]. Heating causes release of toxic oxides of nitrogen. |
| Chemical stability | : Stable under normal conditions |

Hazardous Reactions : **Forms powerfully explosive mixtures with aluminum + ammonium nitrate + formamide + water, ammonium nitrate + hydrocarbon oils, ammonium nitrate + water-soluble fuels, and organic materials.**

Conditions to Avoid : **Avoid contact with incompatible materials. Avoid heat, flame and sparks.**

Incompatible Materials : **Combustible materials, acids and alkalis.**

Hazardous Decomposition Products : **These products are nitrogen oxides metal oxide/oxides.**

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

SECTION 11: TOXICOLOGY

11.1 Acute Toxicity

Classification : **Acute toxicity, oral Category 5**

Description : **LD50 is between 2000-5000.**

| Method | Compound | Cas Number | Measure | Value | Subject |
|------------|------------------|------------|-------------------|-----------------------------|---------|
| Oral | Ammonium Nitrate | 6484-52-2 | LD50 ¹ | 2950 mg/kg bw ₂ | Rat |
| Inhalation | Ammonium Nitrate | 6484-52-2 | LC50 | >88.8 mg/L | Rat |
| Dermal | Ammonium Nitrate | 6484-52-2 | LD50 | >5000 mg/kg bw ² | Rat |

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

⁴ "bw" - body-weight/day

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

11.2 Skin corrosion/irritation

Classification : **No classification**

Description : **P0018 (ammonium nitrate) was regarded as non-irritant to rabbit skin. The test score was 0.**

Subjects : **Rabbits**

Reference: (ECHA, n.d.)

11.3 Serious eye damage/irritation

Classification : **Eye Damage/Irritation Category 2A**

Description : **Based on the effects seen on the conjunctiva in all three animals tested (redness score: average 1, 2 and 3 days) the substance should be considered as being irritating to the eye (Category 2A).**

Subjects : **Rabbits**

Reference: (ECHA, n.d.)

11.4 Respiratory or skin sensitisation

Classification : **No classification**

Description : **Since there was no indication that the test substance elicits an SI ≥ 3 when tested up to 50%, CN-NITCAL was considered to be a non-skin sensitizer.**

Subjects : **Mouse**

Reference: (ECHA, n.d.)

11.5 Germ cell mutagenicity

| | |
|----------------|--|
| Classification | : No classification |
| Description | : All bacterial strains showed negative responses over the entire dose range, i.e. no significant dose-related increase in the number of revertants in two independently repeated experiments. |
| Subjects | : Salmonella typhimurium strains |

Reference: (ECHA, n.d.)

11.6 Carcinogenicity

| | |
|----------------|---|
| Classification | : No test data available, only reference material |
|----------------|---|

Reference: (ECHA, n.d.)

11.7 Reproductive toxicity

| | |
|----------------|---|
| Classification | : No classification |
| Description | : There were no treatment-related deaths and no signs of overt clinical toxicity. There were no effects on body weight, food consumption, or food efficiency. Mating performance and fertility were unaffected by treatment. All animals mated within 4 days. There were no treatment-related effects on gestation length, gestation index, litter size, offspring survival indices, sex ration, offspring bodyweight, or macropathology for offspring. |
| Subjects | : Rat |

Reference: (ECHA, n.d.)

11.8 STOT² - single exposure

No data available

² "STOT" - Specific target organ toxicity.

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

11.9 STOT² - repeated exposure

| | |
|----------------|---|
| Classification | : No classification |
| Description | : No repeated dose study is available for ammonium nitrate via the oral route. However, based on an oral OECD 422 study with potassium nitrate a NOAEL of ≥1500 mg/kg bw/day was derived. In addition, subchronic and chronic studies with ammonium sulphate have been included, to investigate the effect of the cation ammonium on the repeated dose toxicity. Based on these studies a NOAEL of 256 mg/kg bw/day was derived for chronic toxicity. The read-across rationale can be found in the category approach document attached in the target study record. |
| Subjects | : Rat |

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. |
| Eye exposure | : Redness, Pain |
| Skin exposure | : Redness |

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 |
|------------------|------------|---------------------------------|---|------|-------------------|------------|
| Ammonium Nitrate | 6484-52-2 | Fish | Carp | 48-h | LC50 ¹ | 447 mg/L |
| Ammonium Nitrate | 6484-52-2 | Aquatic invertebrates | Daphnia magna | 48-h | EC50 ² | 490 mg/L |
| Ammonium Nitrate | 6484-52-2 | Aquatic invertebrates | Bullia digitalis | 7D | EC50 ² | 555 mg/L |
| Ammonium Nitrate | 6484-52-2 | Aquatic Algae and Cyanobacteria | Benthic Diatoms | 10-d | EC50 | >1700 mg/L |
| Ammonium Nitrate | 6484-52-2 | Micro-organisms | Activated sludge of a predominantly domestic sewage | 3-h | EC50 ² | >1000 mg/L |

Terrestrial Toxicity

| Compound | Cas Number | Organism | Species | Time | Measure | Value |
|------------------|------------|-----------------|---------|------|---------|---------------|
| Ammonium Nitrate | 6484-52-2 | Macro-organisms | | | | Not Justified |
| Ammonium Nitrate | 6484-52-2 | Anthropoids | | | | Not Justified |
| Ammonium Nitrate | 6484-52-2 | Plant | | | | Not Justified |
| Ammonium Nitrate | 6484-52-2 | Micro organisms | | | | Not Justified |
| Ammonium Nitrate | 6484-52-2 | Birds | | | | Not Justified |

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

² "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 : **The substance does not hydrolyse nor is there evidence for photodegradation.**
In aqueous solution, calcium nitrate is completely dissociated into the calcium ion (Ca²⁺) and the nitrate anion (NO₃⁻). Hydrolysis of calcium nitrate does not occur.
- Biodegradation : **Readily biodegradation study does not need to be conducted since the substance is inorganic.**

Reference: (ECHA, n.d.)

12.3 Bioaccumulate potential

- Description : **Simple inorganic salts with high aqueous solubility will exist in a dissociated form in an aqueous solution. Such a substance has a low potential for bioaccumulation.**

Reference: (ECHA, n.d.)

12.4 Mobility in soil

- Adsorption : **Simple inorganic salts with high aqueous solubility will exist in a dissociated form in an aqueous solution. Such a substance has a low potential for adsorption.**
Nitrate is not bound to the soil and will follow water movements. Nitrate can therefore leach when the soil receives more water than it can take up. This happens (in) mainly in the late autumn, winter, and early spring. There exist a lot of studies on the environmental impact of NO₃ and NH₄⁺/NH₃.
- 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 | : | 2067 |
| UN proper shipping name | : | Ammonium Nitrate Based Fertilizer |
| Transport hazard class(es) | : | 5.1 – Oxidizer |
| Label | : |  |
| Packing group | : | III - Substances presenting low danger |
| Environmentally hazardous | : | No classification |
| Special precautions: | : | ADR/RID¹ - Class 02 , HIS 3, Transport category 3, Special provision: 306, 307 IMDG² - Special provision: 306, 307, 900, 967 IATA³ - Special provision: A64, A79 |
| Transport in Bulk according to IMO instructions | : | Not specified |

Reference: (ILO, n.d.) & (ECHA, n.d.) & (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 September 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 | | <p>H272 - May intensify fire; oxidiser</p> <p>H302 - Harmful if swallowed</p> <p>H318 - Causes serious eye damage</p> <p>P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.</p> <p>P220 - Keep away from clothing or other combustible materials.</p> <p>P264 - Wash hands [and ...] thoroughly after handling.</p> <p>P270 - Do not eat, drink or smoke when using this product.</p> <p>P265 - Do not touch eyes.</p> <p>P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...</p> |
| Precautionary Statements | | <p>H272 - May intensify fire; oxidiser</p> <p>H302 - Harmful if swallowed</p> <p>H318 - Causes serious eye damage</p> <p>P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.</p> <p>P220 - Keep away from clothing or other combustible materials.</p> <p>P264 - Wash hands [and ...] thoroughly after handling.</p> <p>P270 - Do not eat, drink or smoke when using this product.</p> <p>P265 - Do not touch eyes.</p> <p>P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...</p> |
| N/A | : | Not Applicable |
| Not Classified | : | Data conclusive but not at sufficient levels for classification |
| PPE | : | Personal precautions, protective equipment. |
| TWA | : | Time Weighted Average |
| OEL | : | Occupational Exposure Limits |
| STOT | : | Specific target organ toxicity |
| LC50 / EC50 | : | (Median Lethal Concentration/Median Effective Concentration): They are the concentrations at which 50% mortality or inhibition of a function (e.g., growth or growth rate) was observed. |
| NOEC | : | (No Observed Effect Concentration) NOEC is the highest tested concentration for which there are no statistically significant difference of effect when compared to the control group |
| ECx | : | It is the concentrations at which x % (10% for EC10) effect was observed or derived statistically when compared to the control group |
| LD0 | : | Lethal Dose 0, represents the dose at which no individuals are expected to die. |
| LC0 | : | Lethal concentration 0, represents the concentration at which no individuals are expected to die. |
| LDLo | : | Lethal dose low, is the lowest dosage of a compound that is introduced to the human body or that of an animal by any means apart from inhalation that will cause the death of the individual. |

16.3 References

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(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.)

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16.4 Disclaimer

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

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

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