

SAFETY DATA SHEET

NUFARM DORMEX PLANT GROWTH REGULATOR

Infosafe No.: 3NUYY
ISSUED Date : 09/02/2023
ISSUED by: NUFARM AUSTRALIA LIMITED.

Section 1 - Identification

Product Identifier

NUFARM DORMEX PLANT GROWTH REGULATOR

Product Code

5223

Company Name

NUFARM AUSTRALIA LIMITED. (ABN 80 004 377 780)

Address

103-105 Pipe Road Laverton North
Victoria 3026 AUSTRALIA

Telephone/Fax Number

Tel: +61 3 9282-1000

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Emergency Phone Number

1800 033 498 (24hr Australia)

Emergency Contact Name

www.nufarm.com.au

E-mail Address

SDSANZ@nufarm.com

Recommended use of the chemical and restrictions on use

For the regulation of bud burst in apples, grapes and kiwi fruit as specified in the Directions for Use table on the label.

Section 2 - Hazard(s) Identification

GHS classification of the substance/mixture

Classified as Hazardous according to the Globally Harmonised System of Classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.

Classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)

Acute toxicity: Category 3 - Oral

Acute toxicity: Category 3 - Dermal

Skin corrosion/irritation: Category 1B

Eye damage/irritation: Category 1

Sensitisation - skin: Category 1

Carcinogenicity: Category 2

Reproductive toxicity: Category 2

Specific target organ toxicity (repeated exposure): Category 2

Hazardous to the Aquatic Environment - Acute Hazard: Category 2

Hazardous to the Aquatic Environment - Long-Term Hazard: Category 3

Signal Word (s)

DANGER

Hazard Statement (s)

H301 Toxic if swallowed.
 H311 Toxic in contact with skin.
 H314 Causes severe skin burns and eye damage.
 H317 May cause an allergic skin reaction.
 H351 Suspected of causing cancer.
 H361 Suspected of damaging fertility or the unborn child.
 H373 May cause damage to organs (Thyroid) through prolonged or repeated exposure.
 H401 Toxic to aquatic life.
 H412 Harmful to aquatic life with long lasting effects.

Pictogram (s)

Skull and crossbones, Health hazard, Corrosion



Precautionary Statement–Prevention

P201 Obtain special instructions before use.
 P202 Do not handle until all safety precautions have been read and understood.
 P260 Do not breathe dust/fume/gas/mist/vapours/spray.
 P264 Wash skin thoroughly after handling.
 P270 Do not eat, drink or smoke when using this product.
 P272 Contaminated work clothing should not be allowed out of the workplace.
 P273 Avoid release to the environment.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary Statement–Response

P312 Call a POISON CENTER/doctor if you feel unwell.
 P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor
 P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
 P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
 P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
 P361+P364 Take off immediately all contaminated clothing and wash it before reuse.
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P310 Immediately call a POISON CENTER/doctor.

Precautionary Statement–Storage

P405 Store locked up.

Precautionary Statement–Disposal

P501 Dispose of contents/container to an approved waste disposal plant.

Section 3 - Composition and Information on Ingredients

Ingredients

Name	CAS	Proportion
Cyanamide	420-04-2	520 g/L
Phosphoric acid	7664-38-2	<2 %
Ingredients determined not to be hazardous		Balance

Section 4 - First Aid Measures

Inhalation

If inhaled, remove affected person from contaminated area. Apply artificial respiration if not breathing. Seek medical attention.

Ingestion

Do not induce vomiting. Immediately wash out mouth with water (never give anything by mouth if affected person is semi-conscious or unconscious). Seek immediate medical attention.

Skin

Remove all contaminated clothing immediately. Wash gently and thoroughly with water and non-abrasive soap for 15 minutes. Ensure contaminated clothing is washed before re-use or discard. Seek immediate medical attention.

Eye

If in eyes, hold eyelids apart and flush the eyes continuously with running water. Remove contact lenses. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. Seek immediate medical attention.

First Aid Facilities

Eyewash, safety shower and normal washroom facilities.

Advice to Doctor

Possible symptoms of exposure include: erythema, headache, nausea, increased pulse, feeling of burning, reduced blood pressure and rapid heart beat. Irritation of skin and mucous membranes, and after large amounts, circulatory depression up to unconsciousness are possible.

CAUTION:

Alcohol (ethanol) interacts with cyanamide.

Symptoms showing flush (difficulty in breathing and a bright red face) are possible.

These symptoms disappear rapidly and are generally harmless.

CYANAMIDE EXPOSURE:

If small amounts have been taken, administer activated charcoal, sodium sulphate and large amounts of liquid orally.

If large amounts have been taken, monitor circulatory functions and if necessary, irrigate the stomach preventing aspiration and taking into account possible irritation to mucous membranes.

In case of skin irritation, use Corticoid containing external preparations.

Other Information

For advice in an emergency, contact a Poisons Information Centre (Phone Australia 131 126) or a doctor at once.

Section 5 - Firefighting Measures

Suitable Extinguishing Media

Water fog, foam, carbon dioxide or dry chemical.

Hazards from Combustion Products

If involved in a fire, it will emit ammonia, carbon oxides, nitrogen oxides and possibly hydrocyanic acid.

Specific hazards arising from the chemical

Violent exothermic reactions above 40°C.

Hazchem Code

2X

Decomposition Temperature

Not available

Precautions in connection with Fire

Fire fighters should wear Self-Contained Breathing Apparatus (SCBA) operated in positive pressure mode and full protective clothing to prevent exposure to vapours or fumes. Water spray may be used to cool down heat-exposed containers. Fight fire from safe location. This product should be prevented from entering drains and watercourses.

Section 6 - Accidental Release Measures

Emergency Procedures

Remove all sources of ignition. Evacuate all unprotected personnel. Do not allow contact with skin and eyes. Do not breathe mist/vapour. It is essential to wear self-contained breathing apparatus (S.C.B.A) and full personal protective equipment and clothing to prevent exposure. Avoid exposure to spillage by collecting the material using explosion proof vacuum and transfer into suitable labelled containers for subsequent recycling or disposal. Dispose of waste according to applicable local and national regulations. If contamination of sewers or waterways occurs inform the local water and waste management authorities in accordance with local regulations.

Section 7 - Handling and Storage

Precautions for Safe Handling

Toxic and corrosive and combustible liquid. Attacks skin and eyes. Causes burns. Avoid exposure. Exposure without protection must be prevented. Wear appropriate personal protective equipment and clothing to prevent exposure. Use in designated areas with local exhaust ventilation. DO NOT store or use in confined spaces. Build up of mists or vapours in the atmosphere must be prevented. Do not use near ignition sources. Do not pressurise, cut, heat or weld containers as they may contain hazardous residues. Maintain high standards of personal hygiene i.e. Washing hands prior to eating, drinking, smoking or using toilet facilities. Interacts with alcohol - DO NOT drink alcohol on day(s) of use.

Avoid exposure. Do not handle until all safety precautions have been read and understood.

It is recommended that pregnant or breastfeeding women should not handle this product unless adequate exposure protection can be assured at all times. Female personnel planning pregnancy should be made aware of the potential risks.

Conditions for safe storage, including any incompatibilities

This material is Toxic, corrosive and combustible and must be stored, handled and maintained according to the appropriate regulations. Limit quantity in storage. Restrict access to storage area. Post appropriate warning signs. Consider leak detection and alarm systems, as required. Provide a catch-tank in a bunded area. Structural materials and lighting and ventilation systems in storage area should be corrosion resistant. Store in a cool, dry, well-ventilated area away from sources of ignition, oxidizing agents, strong mineral acids, bases metal and/or water. Keep containers closed when not in use, securely sealed and protected against physical damage. Inspect regularly for deficiencies such as damage or leaks. Have appropriate fire extinguishers available in and near the storage area. Take precautions against static electricity discharges. Use proper grounding procedures.

For information on the design of the storeroom, reference should be made to Australian Standard AS 3780 The storage and handling of corrosive substances, Australian Standard AS/NZS 4452 The storage and handling of toxic substances and Australian Standard AS/NZS 4745 - 'Code of Practice for Handling Combustible Dusts'.

WARNING:

Storage at temperatures above 40°C can lead to a violent reaction.

Section 8 - Exposure Controls and Personal Protection

Occupational exposure limit values

No exposure standards have been established for this material. However, the available exposure limits for ingredients are listed below:

Cyanamide

TWA: 2 mg/m³

Note: Sen

Phosphoric acid

TWA: 1 mg/m³

STEL: 3 mg/m³

TWA (Time Weighted Average): The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day week.

STEL (Short Term Exposure Limit): The average airborne concentration over a 15 minute period which should not be exceeded at any time during a normal eight-hour workday.

'Sen' Notice: The substance may cause sensitization by skin contact or by inhalation.

Source: Safe Work Australia

Biological Monitoring

No biological limits allocated.

Control Banding

Not available

Engineering Controls

This substance is toxic and should be used with a local exhaust ventilation system, drawing vapours away from workers' breathing zone. Provide sufficient ventilation to keep airborne levels below the exposure limits or as low as possible. Where vapours or mists are generated, particularly in enclosed areas, and natural ventilation is inadequate, a flameproof exhaust ventilation system is required. Alternatively, a process enclosure system such as a fume cupboard should be employed.

Respiratory Protection

If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable vapor/mist

filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements. Reference should be made to Australian Standards AS/NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.

Eye and Face Protection

Safety glasses with side shields, chemical goggles or full-face shield as appropriate should be used. Final choice of appropriate eye/face protection will vary according to individual circumstances. Eye protection devices should conform to relevant regulations. Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 (series) - Eye Protectors for Industrial Applications.

Hand Protection

Wear gloves of impervious material such as elbow-length PVC gloves. Final choice of appropriate gloves will vary according to individual circumstances. i.e. methods of handling or according to risk assessments undertaken. Occupational protective gloves should conform to relevant regulations.

Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.

Thermal Hazards

No further relevant information available.

Body Protection

Suitable protective workwear, e.g. cotton overalls buttoned at neck and wrist is recommended. Chemical resistant apron is recommended where large quantities are handled.

Hygiene Measures

Do not consume alcohol 24 hours before or after use.

Section 9 - Physical and Chemical Properties

Properties	Description	Properties	Description
Form	Liquid	Appearance	Clear blue Liquid
Colour	Clear blue	Odour	Odourless
Melting Point	Not available	Boiling Point	Not available
Decomposition Temperature	Not available	Solubility in Water	Soluble in water
Specific Gravity	1.06 g/L for formulation	pH	3.9 - 4.9 for formulation
Vapour Pressure	500 mPa @ 20°C for cyanamide	Relative Vapour Density (Air=1)	Not available
Evaporation Rate	Not available	Odour Threshold	Not available
Viscosity	Not available	Volatile Component	50% (water)
Partition Coefficient: n-octanol/water (log value)	-0.82 @ 20°C for cyanamide	Density	Not available
Flash Point	Not available	Flammability	Violent exothermic reaction above 40°C
Auto-Ignition Temperature	Not available	Flammable Limits - Lower	Not available
Flammable Limits - Upper	Not available	Explosion Properties	Not available
Oxidising Properties	Not available	Particle Characteristics	Not available

Section 10 - Stability and Reactivity

Reactivity

Reacts with incompatible materials.

Chemical Stability

Stable under normal conditions of storage and handling. Dormex is stable at temperatures below 20°C.

Possibility of hazardous reactions

Violent exothermic reaction with acids, bases and at temperatures above 40°C.

Conditions to Avoid

Heat, open flames and other sources of ignition.

Incompatible Materials

Strong oxidising agents.

Hazardous Decomposition Products

If involved in a fire, it will emit ammonia, carbon oxides, nitrogen oxides and possibly hydrocyanic acid.

Hazardous Polymerization

Hazardous polymerisation may occur above pH 5.

Section 11 - Toxicological Information

Toxicology Information

No toxicity data available for this material. The available acute toxicity data for the ingredient/s is/are given below.

Acute Toxicity - Oral

Cyanamide

LD50 (rat): 125 mg/kg

Acute Toxicity - Dermal

Cyanamide

LD50 (rabbit): 848 mg/kg

Acute Toxicity - Inhalation

Cyanamide

LC50 (rat): >1 mg/l/4h

Ingestion

Toxic if swallowed. Ingestion of this product will cause nausea, vomiting, abdominal pain and chemical burns to the mouth, throat and stomach.

Possible symptoms of exposure of the concentrate include: erythema, headache, nausea, increased pulse and respiration, redness of face, reduced blood pressure and rapid heart beat.

After large exposures, circulatory depression up to unconsciousness is possible.

These symptoms usually disappear within a short time and may last up to 24 hours in extreme cases.

Symptoms are exacerbated by alcohol consumption.

Inhalation

Inhalation of mist or vapour will result in respiratory irritation and possible harmful corrosive effects including burns, lesions of the nasal septum, pulmonary edema, and scarring of tissue.

Skin

Toxic in contact with skin. Product can be absorbed through skin with resultant toxic systemic effects. Causes burns. Corrosive to the skin. Skin contact can cause redness, itching, irritation, severe pain and chemical burns with resultant tissue destruction. May cause an allergic skin reaction.

Eye

Causes eye damage. Eye contact will cause stinging, blurring, tearing, severe pain and possible burns, necrosis, permanent damage and blindness.

Respiratory Sensitisation

Not expected to be a respiratory sensitiser.

Skin Sensitisation

May cause an allergic skin reaction.

Germ Cell Mutagenicity

Not considered to be a mutagenic hazard.

Carcinogenicity

Suspected of causing cancer. Classified as a suspected human carcinogen.

Reproductive Toxicity

Suspected of damaging fertility or the unborn child. Classified as a suspected human reproductive or developmental toxicant.

STOT - Single Exposure

Not expected to cause toxicity to a specific target organ.

STOT - Repeated Exposure

May cause damage to organs (thyroid) through prolonged or repeated exposure.

Aspiration Hazard

Not expected to be an aspiration hazard.

Other Information

The Australian Acceptable Daily Intake (ADI) for cyanamide for a human is 0.002 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 0.2 mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species.

Ref: Australian Pesticides and Veterinary Medicines Authority (APVMA) December 2022.

Cyanamide inhibits the enzyme aldehyde dehydrogenase and thus interferes with the oxidation of alcohol, resulting in the accumulation of acetaldehyde in the blood, an effect which may account for the unpleasant, but transient symptoms of flush.

Section 12 - Ecological Information

Ecotoxicity

Toxic to aquatic life. Harmful to aquatic life with long lasting effects.

The available ecological data for the product and ingredients are given below:

Persistence and degradability

Readily biodegradable.

Mobility

Not available

Bioaccumulative Potential

Not available

Other Adverse Effects

Not available

Environmental Protection

Do not discharge this material into waterways, drains and sewers.

Spray drift can cause damage, read the label for more information.

Acute Toxicity - Fish

Formulated product

LC50 (rainbow trout): 180 mg/l/96h

Acute Toxicity - Daphnia

Dormex

LC50 (Daphnia): 6.5 mg/l/48h

Acute Toxicity - Other Organisms

Cyanamide

LD50 (bobwhite quail): 350 mg/kg

Bees: Toxic to bees. LD50 >10 µg/bee.

Should not be applied while bees are actively foraging.

Hazardous to the Ozone Layer

This product is not expected to deplete the ozone layer.

Section 13 - Disposal Considerations

Disposal Considerations

Dispose of waste according to applicable local and national regulations. Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes including emptied containers are controlled wastes and should be disposed of in accordance with all applicable local and national regulations.

To minimise personal exposure, refer to Section 8 - Exposure Controls and Personal Protection.

Product Disposal

On site disposal of the concentrated product is not acceptable.

Ideally, the product should be used for its intended purpose. If there is a need to dispose of the product, approach local authorities who hold periodic collections of unwanted chemicals (ChemClear®).

Container Disposal and Methods

Do not use this container for any other purpose.

drumMUSTER is the national program for the collection and recycling of empty, cleaned, non returnable crop production and on-farm animal health chemical containers. If the label on your container carries the drumMuster symbol, triple rinse the container, ring your local Council, and offer the container for collection in the program.

Returnable containers: empty contents fully into application equipment. Replace cap, close all valves and return to the point of supply for refill or storage.

If no landfill is available, bury the containers below 500mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots.

Triple or preferably pressure rinse containers before disposal. Add rinsings to the spray tank.

If not recycling, puncture or shred and bury containers in local authority landfill.

If recycling, replace cap and return clean containers to recycler or designated collection point.

Section 14 - Transport Information

Transport Information

Road and Rail Transport (ADG Code):

This material is classified as a Class 8 Corrosive Substances Dangerous Goods and subsidiary Division 6.1 Toxic Substances

These Goods are incompatible in a placard load with any of the following:

- Class 1: Explosives
 - Class 3: Flammable Liquids, if the Class 3 dangerous goods is nitromethane
 - Division 4.3: Dangerous when wet Substances
 - Division 5.1: Oxidising substances
 - Division 5.2: Organic peroxides
 - Class 6, Toxic or Infectious Substances, if the Class 6 dangerous goods are cyanides and the Class 8 dangerous goods are acids
 - Class 7: Radioactive materials unless specifically exempted
- and are incompatible with food and food packaging in any quantity.

Strong acids must not be loaded in the same freight container or on the same vehicle with strong alkalis. Packing Group I and II acids and alkalis should be considered as strong.

Marine Transport (IMO/IMDG):

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

Class/Division: 8(6.1)

UN No: 2922

Proper Shipping Name: CORROSIVE LIQUID, TOXIC, N.O.S.(Contains Cyanamide)

Packing Group: II

EMS: F-A, S-B

Special Provisions: 274

Air Transport (ICAO/IATA):

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

Class/Division: 8(6.1)

UN No: 2922

Proper Shipping Name: Corrosive liquid, toxic, n.o.s.(Contains Cyanamide)

Packing Group: II

Label: Corrosive toxic

Packaging Instructions (passenger & cargo): 851

Packaging Instructions (cargo only): 855

Special provisions: A3, A4, A803

UN Number

2922

Proper Shipping Name

CORROSIVE LIQUID, TOXIC, N.O.S.(contains Cyanamide)

Transport Hazard Class

8

Subsidiary Hazard

6.1

Packing Group

II

Hazchem Code

2X

IERG Number

37

Special Precautions for User

Not available

IMDG Marine pollutant

No

Transport in Bulk

Not available

Section 15 - Regulatory Information

Regulatory Information

Classified as Hazardous according to the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) including Work, Health and Safety Regulations, Australia.

Classified as a Scheduled Poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

Australia: WHS regulations (2011) - Schedule 11: item 37 (skin corrosion 1B), item 34 (acute toxicity 3).

Poisons Schedule

S6

Montreal Protocol

Not listed

Stockholm Convention

Not listed

Rotterdam Convention

Not listed

International Convention for the Prevention of Pollution from Ships (MARPOL)

Not available

Agricultural and Veterinary Chemicals Act 1994

APVMA product number: 49200.

This product is registered with the Australian Pesticides and Veterinary Medicines Authority (APVMA).

Basel Convention

Not listed

Section 16 - Any Other Relevant Information

Date of Preparation

SDS Revised: February 2023

Supersedes: March 2022

Version Number

2.0

Literature References

Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice.

Standard for the Uniform Scheduling of Medicines and Poisons.

Australian Code for the Transport of Dangerous Goods by Road & Rail.

Work Health and Safety Regulations, Schedule 10: Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.

Code of Practice for Supply Diversion into Illicit Drug Manufacture.

National Code of Practice for Chemicals of Security Concern.

Agricultural Compounds and Veterinary Chemicals Act.

International Agency for Research on Cancer (IARC) Monographs.

Montreal Protocol on Substances that Deplete the Ozone Layer.

Stockholm Convention on Persistent Organic Pollutants (POPs).

Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.

Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal.

International Air Transport Association (IATA) Dangerous Goods Regulations.

International Maritime Dangerous Goods (IMDG) Code.

Workplace exposure standards for airborne contaminants.

Adopted biological exposure determinants, American Conference of Industrial Hygienists (ACGIH).

Globally Harmonised System of Classification and Labelling of Chemicals (7th revised edition).

Code of Practice: Managing Noise and Preventing Hearing Loss at Work.

Contact Person/Point

Normal hours: SDS coordinator : Phone +61 3 9282 1000

After hours: Shift supervisor : Phone 1800 033 498

END OF SDS

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