1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: DORMEX Plant Growth Regulator

Classified as hazardous

Product Code: 5223

Product Type: Plant Growth Regulator

Company Name: Crop Care Australasia Pty Ltd (ABN 53 061 362 347)

Address: Unit 15/16 Metroplex Avenue Murarrie Queensland 4172 Australia

Emergency Tel.: 1800 033 498 (24hr Australia)

Telephone/Fax Number: Tel: +61 7 3909 2000 Fax: +61 7 3909 2010

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

Other Information: This Safety Data Sheet describes, to the best of our knowledge, the properties of the concentrated product. The physical properties and some of the assessments do not apply to the properties of the product once it has been diluted for application. Acute health effects of the diluted product are likely to be much less severe.

2. HAZARDS IDENTIFICATION

Hazard Classification:
- Classified as hazardous
- HAZARDOUS SUBSTANCE.
- DANGEROUS GOODS.

Hazard classification according to the criteria of NOHSC.

Dangerous goods classification according to the Australia Dangerous Goods Code.

Risk Phrase(s):
- R21/22 Harmful in contact with skin and if swallowed.
- R34 Causes burns.
- R43 May cause sensitization by skin contact.

Safety Phrase(s):
- S1/2 Keep locked up and out of reach of children.
- S14 Keep away from acids and bases.
- S3 Keep in a cool place.
- S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
- S46 If swallowed, seek medical advice immediately and show this container or label.

Other Information:
- Poisons Schedule S6

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization of Ingredients: Liquid

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyanamide</td>
<td>420-04-2</td>
<td>520 g/L</td>
</tr>
<tr>
<td>Phosphoric acid</td>
<td>7664-38-2</td>
<td>&lt;2%</td>
</tr>
<tr>
<td>Other ingredients (considered non-hazardous)</td>
<td>Balance</td>
<td></td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Inhalation: Remove affected person to fresh air until recovered. If breathing is difficult, oxygen may be given by a trained person.

If symptoms develop or persist, seek medical advice.

Ingestion: Give a glass of water.

If vomiting occurs, give more water to drink to assist dilution.

If swallowed do NOT induce vomiting; seek medical advice immediately and show this container or label or contact the Poisons Information Centre on 13 11 26 (Aust). Make every effort to prevent vomit from entering the lungs by careful placement of the patient.

Skin: If skin contact occurs, remove contaminated clothing and wash skin thoroughly with water.
Remove contaminated clothing and launder before re-use.
If irritation persists, seek medical advice.
If in eyes, hold eyelids open and wash with copious amounts of water for at least 15 minutes.
Seek medical advice if irritation develops or persists.
If poisoning occurs, contact a doctor or the Poisons Information Centre (Australia) on 13 11 26.
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.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media
Water fog, foam, carbon dioxide or dry chemical.

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

Breathable air apparatus should be worn when fighting a fire in which cyanamide is involved.

If exposed to fire, keep container cool by spraying with water.

Stop fire water from entering drains or water bodies.

6. ACCIDENTAL RELEASE MEASURES

Spills & Disposal
Contain spill and absorb with clay, sand, soil or proprietary absorbent (such as vermiculite). Collect spilled material and waste in sealable open-top type containers for disposal.

7. HANDLING AND STORAGE

Precautions for Safe Handling
For personal protective equipment (PPE) and hygiene advice, refer Section 8. Interacts with alcohol - DO NOT drink alcohol on day(s) of use.
Store in the closed, original container below 20°C in a cool dry dark place away from sunlight.
If stored from one season to the next, store at 4°C in a cool store.
Keep container tightly sealed and do not store with seed, fertilisers or foodstuffs.
Store in a locked enclosure.
WARNING:
Storage at temperatures above 40°C can lead to a violent reaction.

Always read the label and any attached leaflet before use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION
Material Safety Data Sheet

Product Name: DORMEX Plant Growth Regulator

Classified as hazardous

National Exposure Standards

<table>
<thead>
<tr>
<th>Name</th>
<th>STEL</th>
<th>TWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyamidine</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Phosphoric acid</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>

Use in a well ventilated area only.

Engineering Controls

When opening the container, preparing spray and using the prepared spray wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow-length PVC gloves and face shield or goggles.

If clothing becomes contaminated with product or wet with spray, remove clothing immediately.

Personal Protective Equipment

After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.

After each day's use, wash contaminated clothing and safety equipment.

Hygiene Measures

Do not consume alcohol 24 hours before or after use.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Clear blue Liquid</td>
</tr>
<tr>
<td>Odour</td>
<td>Odourless</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Soluble in water.</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.06 g/L for formulation</td>
</tr>
<tr>
<td>pH Value</td>
<td>3.9 - 4.9 for formulation</td>
</tr>
<tr>
<td>Vapour Pressure</td>
<td>500 mPa @ 20°C for cyanamide</td>
</tr>
<tr>
<td>Volatile Component</td>
<td>50% (water)</td>
</tr>
<tr>
<td>Octanol/Water</td>
<td>=0.82 @ 20°C for cyanamide</td>
</tr>
<tr>
<td>Partition Coefficient</td>
<td>Violent exothermic reaction above 40°C</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Chemical Stability

Dormex is stable at temperatures below 20°C.

Incompatible Materials

Avoid contact of the concentrate with strong acids, bases and combustible materials.

Hazardous Reactions

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

Hazardous Polymerization

Hazardous polymerisation may occur above pH5.

11. TOXICOLOGICAL INFORMATION

Toxicology Information

No harmful effects are expected if the precautions on the label and this MSDS are followed.

Inhalation

May cause irritation to mucous membranes and respiratory tract.

Ingestion

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.

May cause irritation to mouth, throat and stomach.

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.

Skin

Symptoms are exacerbated by alcohol consumption.

Eye

The concentrate will cause severe irritation and possible damage unless washed off immediately.

Chronic Effects

Based on available data, repeated exposures are not anticipated to cause
Product Name: DORMEX Plant Growth Regulator

**Mutagenicity**
- Additional significant adverse effects.
- Data indicates no mutagenic effects.

**Acute Toxicity - Oral**
- LD50 (rat) 125 mg/kg for cyanamide
- LD50 (rat) 284 mg/kg for the formulation

**Acute Toxicity - Dermal**
- LD50 (rabbit) 848 mg/kg for cyanamide
- LD50 (rabbit) 1700 mg/kg for the formulation

**Acute Toxicity - Inhalation**
- LC50 (rat) (4hr) >1 mg/l for cyanamide
- LC50 (rat) (4hr) >2 mg/l for the formulation

**Eye Irritation**
- This product is a severe eye irritant.

**Skin Irritation**
- This product is corrosive to skin.

**Skin Sensitisation**
- Prolonged and repeated skin contact may result in skin sensitisation.

**Human Effects**
- 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.

**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: Comm. Dept. of Health and Ageing, Office of Chemical Safety, 'ADI List', March 2013).

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**12. ECOLOGICAL INFORMATION**

**Other Precautions**
- Do not contaminate streams, rivers or waterways with the chemical or used containers.

**Environ. Protection**
- Spray drift can cause damage, read the label for more information.

**Acute Toxicity - Fish**
- LC50 (96hr) for rainbow trout is 180 mg/l for the formulated product
- LC50 (96hr) for bluegill sunfish is 44 mg/l for the formulated product

**Acute Toxicity - Daphnia**
- LC50 (48hr) for Dormex is 6.5 mg/l.

**Acute Toxicity - Other Organisms**
- The following data is for the active ingredient, cyanamide.
- LD50 for bobwhite quail is 350 mg/kg
- Bees: Toxic to bees. LD50 >10 µg/bee.
- Should not be applied while bees are actively foraging.

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**13. DISPOSAL CONSIDERATIONS**

**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**
- Do not use this container for any other purpose.
- Triple or preferably pressure rinse containers before disposal. Add rinsings to the spray tank.
- If recycling, replace cap and return clean containers to recycler or designated collection point.
- If not recycling, puncture or shred and bury containers in local authority landfill.
- 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.
- Empty containers and product should not be burnt.
- 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.

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**14. TRANSPORT INFORMATION**

**Transport Information**
- It is good practice not to transport agricultural chemical products with food, food related materials and animal feedstuffs.

**U.N. Number**
- 2922
Material Safety Data Sheet

Product Name: DORMEX Plant Growth Regulator

**Proper Shipping Name**
CORROSIVE LIQUID, TOXIC, N.O.S. - (contains Cyanamide)

**DG Class**
8

**Sub.Risk**
6.1

**Hazchem Code**
2X

**Packaging Method**
3.8.8

**Packing Group**
II

Storage and Transport:
Considered dangerous for transport by the Australian Code for the Transport of Dangerous Goods by Road and Rail.

**EPG Number**
8A1

**IERG Number**
37

**15. REGULATORY INFORMATION**

**Poisons Schedule**
S6

**Packaging & Labelling**
POISON

**Hazard Category**
Harmful, Corrosive

**Other Information**
This product is registered with the Australian Pesticides and Veterinary Medicines Authority (APVMA). APVMA product number: 49200.

**16. OTHER INFORMATION**

Date of preparation or last revision of MSDS:
Revised 14/08/2013
This safety data sheet replaces document dated August 2008.

Contact:
Normal Hours: Mrs Kathleen Marsh Phone: +61 3 9282 1000
After Hours: Shift Supervisor Phone: 1800 033 498

Person/Point Literature:
Dormex MSDS, AlzChem AG, Version 7.1 dated 19/04/2012.

References:
The SDS was reviewed. Various changes were made to the information.

Revisions Highlighted:
...End Of MSDS...

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