# SAFETY DATA SHEET

## Section 1. Identification of the material and the supplier

| | |
|---|---|
| Product: | **Hatuma Dicalcic Phosphate** |
| Product Use: | Fertiliser |
| Restriction of Use: | Refer to Section 15 |
| New Zealand Supplier: | **Hatuma Lime Company Ltd** |
| Address: | 520 Maharakeke Road<br>RD1, Waipukurau, 4281 |
| Telephone: | +64 6 858-8567 |
| Fax Number: | +64 6 858-8018 |
| **Emergency Telephone:** | **0800 764 766 (National Poison Centre)** |
| Date of SDS Preparation: | 6 August 2024 v2 |

## Section 2. Hazards Identification

**This substance is hazardous according to the EPA Hazardous Substances (Classification) Notice 2020**

**EPA Approval No: Fertilisers (subsidiary) – HSR002571**

**Pictograms**

Irritant Corrosive

Signal Word: **DANGER**

| GHS Classification and Category | Hazard Code | Hazard Statement |
|---|---|---|
| Skin irritation Cat. 2 | H315 | Causes skin irritation. |
| specific target organ toxicity – single exposure Cat. 3 respiratory tract irritation | H335 | May cause respiratory irritation. |
| Serious eye damage Cat. 1 | H318 | Causes serious eye damage. |

| Prevention Code | Prevention Statement |
|---|---|
| P102 | Keep out of reach of children. |
| P103 | Read carefully and follow all instructions. |
| P261 | Avoid breathing dust and fumes. |
| P264 | Wash hands thoroughly after handling. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P280 | Wear protective clothing. |

| Response Code | Response Statement |
|---|---|
| P310 | Immediately call a POISON CENTER or doctor/physician. |
| P362 + P364 | Take off contaminated clothing and wash before re-use. |

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|---|---|
| P302 + P352 | IF ON SKIN: Wash with plenty of soap and water. |
| P304 + P340 | IF INHALED: Remove to fresh air and keep at rest in a position 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. |
| P332 + P313 | If skin irritation occurs: Get medical advice/ attention. |

| **Storage Code** | **Storage Statement** |
|---|---|
| P405 | Store locked up. |
| P403 + P233 | Store in a well-ventilated place. Keep container tightly closed. |

| **Disposal Code** | **Disposal Statement** |
|---|---|
| P501 | Dispose of according to Local Regulations or Authorities |

## Section 3. Composition / Information on Hazardous Ingredients

| Ingredients | Wt% | CAS NUMBER. |
|---|---|---|
| Calcium Carbonate | 35 | 471-34-1 |
| Calcium Sulfate | 25 | 10101-41-4 |
| Calcium Phosphate, Dibasic | 20 | 7757-93-9 |
| Calcium Fluoride | 2 | 7789-75-5 |
| Water | 10 | 7732-18-5 |

## Section 4. First Aid Measures

Routes of Exposure:

If in Eyes — Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

If on Skin — Wash with plenty of soap and water. Take off contaminated clothing and wash before re-use. If skin irritation occurs: get medical advice/attention.

If Swallowed — DO NOT induce vomiting. Rinse mouth. Never give anything to the mouth of an unconscious person. If vomiting occurs, place victim face downwards, with the head turned to the side and lower than the hips to prevent vomit entering the lungs. Seek medical attention if needed.

If Inhaled — Remove person to fresh air. Remove contaminated clothing and loosen remaining clothing. Allow person to assume most comfortable position and keep warm. Keep at rest until fully recovered. Get medical advice if breathing becomes difficult.

**Most important symptoms and effects, both acute and delayed**

Symptoms:

**Ingestion:** Not applicable.
**Inhalation:** May cause respiratory irritation. Refer to Section 11
**Skin:** Causes skin irritation. Refer to Section 11
**Eye:** Causes serious eye damage.

## Section 5. Fire Fighting Measures

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|---|---|
| **Hazard Type** | Non-Flammable /Non-combustible |
| **Hazards from combustion products** | Decomposition may produce toxic fumes of:, phosphorus oxides (POx), sulfur oxides (SOx), metal oxidesMay emit poisonous fumes.May emit corrosive fumes. |

| | |
|---|---|
| **Suitable Extinguishing media** | Use extinguishing media appropriate for surrounding fire. Prevent, by any means available, spillage from entering drains or water courses. Use fire-fighting procedures suitable for surrounding area. |
| **Precautions for firefighters and special protective clothing** | Wear breathing apparatus plus protective gloves in the event of a fire. |
| **HAZCHEM CODE** | **None allocated** |

## Section 6. Accidental Release Measures

Wear protective equipment as detailed in Section 8. Clear area of any unprotected personnel. Remove all ignition sources. Avoid contact with skin and eyes.

Clean up all spills immediately.

Sweep or vacuum up, but avoid generating dust. Collect and seal in properly labelled containers or drums for disposal. Dispose according to Local Regulations.

## Section 7. Handling and Storage

**Precautions for Handling:**

- Read carefully and follow all instructions.
- Avoid breathing dust and fumes.
- Wash hands thoroughly after handling.
- Avoid skin and eye contact and breathing in dust.
- Use only outdoors or in a well-ventilated area.
- Prevent concentration in hollows and sumps.
- Wear protective clothing.

**Precautions for Storage:**

- Store away from incompatible materials listed in Section 10 and foodstuff containers.
- Store locked up and away from children.
- Store in a dry, cool, well-ventilated place.
- Store only in original container.
- Suitable container: Polyethylene or polypropylene container.
  Check all containers are clearly labelled and free from leaks.

**Storage incompatibility:**

Calcium carbonate:

- is incompatible with acids, ammonium salts, fluorine, germanium, lead diacetate, magnesium, mercurous chloride, silicon, silver nitrate, titanium. Contact with acid generates carbon dioxide gas, which may pressurise and then rupture closed containers

Calcium sulfate:

- reacts violently with reducing agents, acrolein, alcohols, chlorine trifluoride, diazomethane, ethers, fluorine, hydrazine, hydrazinium perchlorate, hydrogen peroxide, finely divided aluminium or magnesium, peroxyfuroic acid, red phosphorus, sodium acetylide
- sensitises most organic azides which are unstable shock- and heat- sensitive explosives may form explosive materials with 1,3-di(5-tetrazolyl)triazene
- is incompatible with glycidol, isopropyl chlorocarbonate, nitrosyl perchlorate, sodium borohydride
- is hygroscopic; reacts with water to form gypsum and Plaster of Paris
- Phosphates are incompatible with oxidising and reducing agents.
- Phosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides.
- Partial oxidation of phosphates by oxidizing agents may result in the release of toxic phosphorus oxides.

## Section 8 Exposure Controls / Personal Protection

## WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

| Substance | TWA ppm | TWA mg/m³ | STEL ppm | STEL mg/m³ |
|---|---|---|---|---|
| calcium carbonate | - | 10 | - | - |
| calcium sulfate | - | 10 | - | - |
| calcium fluoride | - | 2.5 | - | - |

Workplace Exposure Standard – Time Weighted Average (WES-TWA). The time-weighted average exposure standard designed to protect the worker from the effects of long-term exposure. Workplace Exposure Standard – Short-Term Exposure Limit (WESSTEL). The 15-minute average exposure standard. Applies to any 15- Minute period in the working day and is designed to protect the worker against adverse effects of irritation, chronic or irreversible tissue change, or narcosis that may increase the likelihood of accidents. The WES-STEL is not an alternative to the WES-TWA; both the short-term and time-weighted average exposures apply. Workplace Exposure Standards and Biological Exposure Indices NOV 2023 14TH EDITION.

**EMERGENCY LIMITS**

| Ingredient | Material name | TEEL-1 | TEEL-2 | TE |
|---|---|---|---|---|
| calcium carbonate | Limestone; (Calcium carbonate; Dolomite) | 27 mg/m3 | 27 mg/m3 | 1300 mg/m3 |
| calcium carbonate | Carbonic acid, calcium salt | 45 mg/m3 | 210 mg/m3 | 1300 mg/m3 |
| calcium sulfate | Calcium(II) sulfate dihydrate (1:1:2) | 10 mg/m3 | 10 mg/m3 | 21 mg/m3 |
| calcium sulfate | Calcium sulfate anhydrous; (Drierite; Gypsum; Plaster of Paris) | 30 mg/m3 | 330 mg/m3 | 2000 mg/m3 |
| calcium fluoride | Calcium fluoride | 15 mg/m3 | 32 mg/m3 | 1000 mg/m3 |

| Ingredient | Original IDLH | Revised IDLH |
|---|---|---|
| calcium carbonate | Not Available | Not Available |
| calcium sulfate | Not Available | Not Available |
| calcium phosphate, dibasic | Not Available | Not Available |
| calcium fluoride | 500 mg/m3 | 250 mg/m3 |
| water | Not Available | Not Available |

### Engineering Controls

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.
The basic types of engineering controls are:
Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.

### Personal Protection Equipment

| | |
|---|---|
| **Eyes** | Safety glasses with side shields.<br>Chemical goggles. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. |
| **Skin** | Wear Butyl, Neoprene or viton gloves. Wear overalls, PVC apron and barrier cream. |
| **Respiratory** | Type AX-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent) |
| **General** | Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use. |

## Section 9 Physical and Chemical Properties

| | |
|---|---|
| **Appearance** | Granules of variable size; dispersible in water forming a suspension. Divided solid |
| **Colour** | Grey-beige |
| **Odour** | Not available |
| **Odour Threshold** | Not available |
| **pH** | Not available |
| **Boiling Point** | Not available |
| **Melting Point** | Not available |
| **Freezing Point** | Not available |
| **Flash Point** | Not available |
| **Flammability** | Not available |
| **Upper and Lower Explosive Limits** | Not available |
| **Vapour Pressure** | Not available |
| **Vapour Density** | Not available |
| **Relative Density** | Not available |
| **Water Solubility** | Partly Miscible |
| **Partition Coefficient:** | Not available |
| **Auto-ignition Temperature** | Not available |
| **Decomposition Temperature** | Not available |
| **Kinematic Viscosity** | Not available |
| **Particle Characteristics** | Not available |

## Section 10. Stability and Reactivity

| | |
|---|---|
| **Stability of Substance** | This product is stable under normal conditions. |
| **Conditions to Avoid** | Refer to Section 7 |
| **Incompatible Materials** | Refer to Section 7 |
| **Hazardous Decomposition Products** | Decomposition may produce toxic fumes of: phosphorus oxides (POx), sulfur oxides (SOx), metal oxidesMay emit poisonous fumes.May emit corrosive fumes. |

## Section 11 Toxicological Information

**Acute Effects:**

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|---|---|
| **Swallowed** | Not triggered however, accidental ingestion of the material may be damaging to the health of the individual.<br>As absorption of phosphates from the bowel is poor, poisoning this way is less likely. Effects can include vomiting, tiredness, fever, diarrhoea, low blood pressure, slow pulse, cyanosis, spasms of the wrist, coma and severe body spasms. |
| **Dermal** | Not applicable. |
| **Inhalation** | This material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.<br>Levels above 10 ug/m3 of suspended inorganic sulfates in the air may cause an excess risk of asthmatic attacks in susceptible persons<br>Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.<br>If prior damage to the circulatory or nervous systems has occurred or if kidney damage has been sustained, proper screenings should be conducted on individuals who may be exposed to further risk if handling and use of the material result |
| **Eye** | Causes serious eye damage. |

| | |
|---|---|
| **Skin** | Causes skin irritation. The material may cause moderate inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering.<br>Four students received severe hand burns whilst making moulds of their hands with dental plaster substituted for Plaster of Paris. The dental plaster known as "Stone" was a special form of calcium sulfate hemihydrate containing alpha-hemihydrate crystals that provide high compression strength to the moulds. |

**Chronic Effects:**

| | |
|---|---|
| **Carcinogenicity** | Not applicable. |
| **Reproductive Toxicity** | Not applicable. |
| **Germ Cell Mutagenicity** | Not applicable. |
| **Aspiration** | Not applicable. |
| **STOT/SE** | Not applicable. |
| **STOT/RE** | Not applicable. |
| **Chronic:** | Long-term exposure to respiratory irritants may result in disease of the airways involving difficult breathing and related systemic problems. There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.<br>There is some evidence that inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population. |

**Information on individual components:**

| | |
|---|---|
| **CALCIUM CARBONATE** | No evidence of carcinogenic properties. No evidence of mutagenic or teratogenic effects. |
| **CALCIUM CARBONATE & CALCIUM SULFATE & CALCIUM PHOSPHATE, DIBASIC & CALCIUM FLUORIDE** | Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. |

## Section 12. Ecotoxicological Information

This product is not hazardous to the environment.

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|---|---|
| **Persistence and degradability** | No data available for the product<br>calcium sulfate: Water/Soil = High Air: High<br>Water: Water/Soil = Low Air: Low |
| **Bioaccumulation** | No data available for the product<br>Calcium sulfate: LOW (LogKOW = -2.2002) |

| | |
|---|---|
| | Water: LOW (LogKOW = -1.38) |
| **Mobility in Soil** | No data available for the product<br>Calcium sulfate: LOW (KOC = 6.124)<br>Water: LOW (KOC = 14.3) |
| **Other adverse effects** | No data available |

## Section 13. Disposal Considerations

**Disposal Method:** Triple Rinse container and dispose of according to local regulations.

**Precautions and methods to avoid:** None known.

## Section 14 Transport Information

**This product is NOT classified as a Dangerous Good for transport in NZ ; NZS 5433:2020**

## Section 15 Regulatory Information

EPA Approval Code: Fertilisers (subsidiary)– HSR002571

Trigger quantities for this substance:

| | **Trigger Quantity** |
|---|---|
| Certified Handlers | Not required |
| Location Certificate | Not required |
| Tracking Trigger Quantities | Not required |
| Signage Trigger Quantities | 1000 kg |
| Emergency Response Plan | 10 000kg |
| Secondary Containment | 10 000kg |
| Restriction of Use | Only use for the intended purpose. |

## Section 16 Other Information

**Glossary**

| | |
|---|---|
| $EC_{50}$ | Median effective concentration. |
| EEL | Environmental Exposure Limit. |
| EPA | Environmental Protection Authority |
| HSNO | Hazardous Substances and New Organisms. |
| $LC_{50}$ | Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it. |
| $LD_{50}$ | Lethal dose to kill 50% of test animals/organisms. |
| LEL | Lower explosive level. |
| OSHA | American Occupational Safety and Health Administration. |
| TEL | Tolerable Exposure Limit. |
| TLV | Threshold Limit Value-an exposure limit set by responsible authority. |
| UEL | Upper Explosive Level |
| WES | Workplace Exposure Limit |

References:


1. EPA Hazardous Substances (Safety Data Sheets) Notice 2017
2. Workplace Exposure Standards and Biological Exposure Indices Nov 2023 14th edition.
3. Assigning a hazardous substance to a HSNO Approval (Aug 2013).
4. Transport of Dangerous goods on land NZS 5433:2020
5. HSW (Hazardous Substances) Regulations 2017


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Please contact the New Zealand distributor, Hatuma, if further information is required.

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