



Product Development:

Graymont is a global leader in the supply of lime and limestone products.

Aerolime™ has been developed over a period of two years to provide hill country farmers with an effective solution for improving pasture production.

This high calcium carbonate product is manufactured through a specific crushing, screening and storage process and is tested extensively during manufacturing to ensure the particle size, moisture content and other factors meet our exacting specifications.

IMPORTANT NOTE: Graymont Aerolime™ and groundspread AgLime are different products and should never be mixed for aircraft safety reasons. Aerolime™ has a different particle size distribution curve to AgLime—with less fines than AgLime to improve product flowability. Always store dry and under cover and free from contamination and in accordance with the Safety Data Sheet.



Key documents for further reference should include:

- Safety Guideline – Farm Airstrips and Associated Fertiliser Cartage, Storage and Application, Jointly published by the Civil Aviation Authority & Department of Labour 2005*
- Health and Safety at Work Act 2015
- Civil Aviation Rules Part 137
- WorkSafe Quick Guides: Overlapping Duties

*and subsequent updates.

INTRODUCING



HEALTH AND SAFETY GUIDELINE

Delivering a real lift for New Zealand hill country farmers

Trials on North Island hill country have shown that low rate liming of hill country can deliver significant benefits for farmers over time¹.

These benefits include increased pasture production, less pasture litter, increased worm activity², improved wool production from both ewes and lambs PLUS faster lamb growth.

A set of observations from a commercial bull-beef farm near Bennydale also indicated that liming contributed to increased metabolisable energy of pasture and increased liveweight gain per hectare³.

ISSUED: JAN 2019
VERSION: 1

Freephone 0800 245 463 or visit www.onlime.co.nz for further information.



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1. O'Connor, M.B.; Foskett, H.R.; Smith, A. 1981. The effect of low rate of lime on North Island hill country pasture and animal production and the economics of use. Proceedings of NZ Society of Animal Production 41:82-87.
2. Stockdill, S.M.J. 1966. The effect of earthworms on pastures. Department of Agriculture, Palmerston, Otago.
3. Observations from Chris Adams' Kopaki farm 2010-2012.



AEROLIME™ SAFETY

In order to comply with regulations relating to aviation safety and ensure other parties in the supply chain do the same, Graymont has developed an extensive AeroLime™ health and safety system. This guideline is a key component of this system.

As part of our responsibility under the Health and Safety at Work Act 2015 (HSWA) as a manufacturer, this guideline covers key hazards and mitigations in place regarding AeroLime™.



LEGAL REQUIREMENTS

The HSWA legislation requires a person conducting a business or undertaking (PCBU) to among other things:

- So far as is reasonably practicable, not put the health and safety of other persons at risk from work carried out as part of the conduct of the business; and
- So far as is reasonably practicable, ensure that, where it owes duties under HSWA, it eliminates or minimises the health and safety risks associated with the work it carries out; and consult, co-operate and co-ordinate activities so far as reasonably practicable with other PCBU's where duties are owed in relation to the same matter.

OVERLAPPING DUTIES

Worksafe Quick Guide

Duties can overlap in a supply chain where parties provide services to a client and don't necessarily share the same workplace.

Businesses must so far as is reasonably practicable consult, cooperate and coordinate activities with all other businesses they share overlapping duties with.

It is more likely that a business will successfully meet their duty to consult, cooperate and coordinate if they:

- Plan ahead, by thinking through every stage of the work, and recognising how the work could affect other businesses and the public.
- Identify the health and safety risks that need managing.
- Consult other businesses to agree how to control each risk.
- Consult other businesses to decide which business, or businesses, are best placed to control each risk.
- Clearly define roles, responsibilities and actions, and explain these so everyone knows what to expect.



Hazards with AeroLime™ from the CAA Guideline 2005*

As stated in the CAA Guideline, each party: manufacturer, supplier, transport operator, airstrip owner, farmer, loader driver, aerial operator and pilot, has responsibilities to ensure the fertilizer is in a suitable condition before delivery, while taking delivery, and while handling the product including loading and sowing, to ensure that the product is maintained in a free-flowing condition while in their possession.

*At the time of publication this information is current, however Graymont cannot be responsible for any subsequent updates. Please refer to the CAA, WorkSafe and other relevant websites to ensure you have the most current information.

Flowability: Moisture can alter the flow characteristics of the material from the hoppers in top-dressing aircraft and cause the particles of material to adhere to each other, changing the nature of the material from one of free-flowing powder to large chunks of material. In some situations the throat of the hopper can be entirely blocked. When excessive fineness of material is involved, the material may become compacted and immovable. Aircraft hopper throat blockage can also occur due to the fertilizer containing large lumps, or debris from the storage site, for example: stones and rocks, earth clumps, sticks, vegetation and cowpats. These situations can present a potential life-threatening hazard for the pilot of the aircraft, particularly when the pilot needs to discharge the payload during an emergency and cannot.

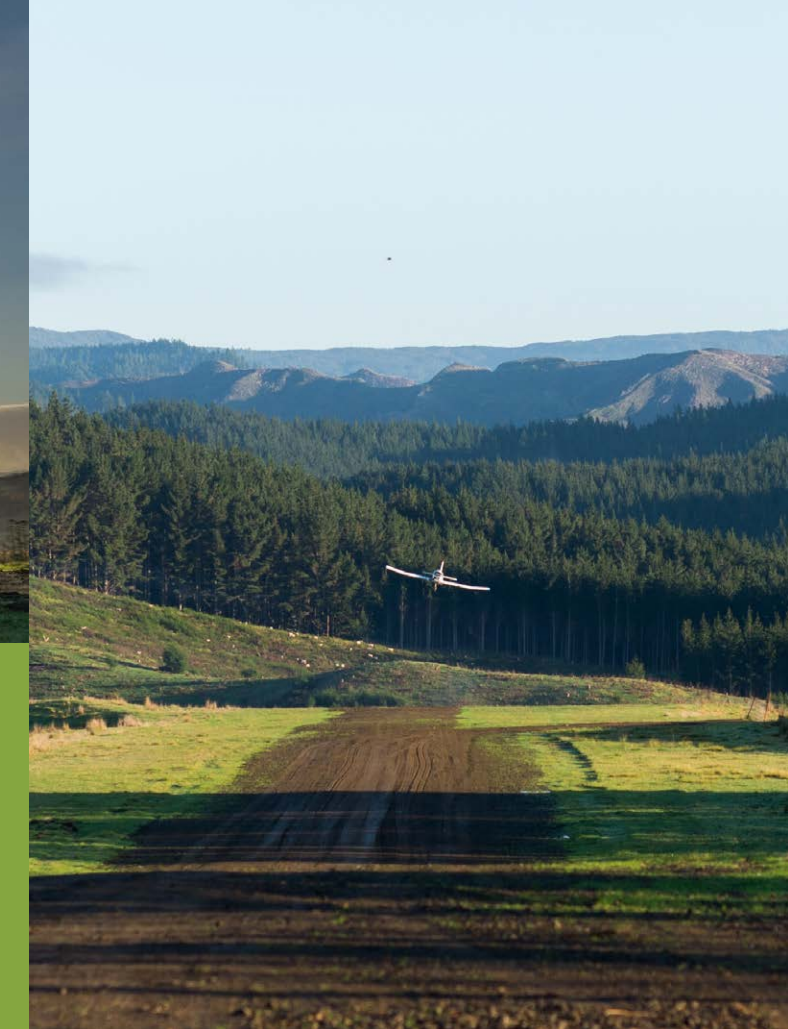
HAZARD MITIGATIONS AND RESPONSIBILITIES TRANSPORT

Key Responsibilities: Transport companies/drivers

Ensure the following:

- Truck drivers are provided with training in regards to hazards and risks identified.
- The truck driver has the proper driver's licence and endorsements, alongside adequate training and experience to transport the AeroLime™.
- AeroLime™ loads are appropriately covered during transport to prevent dampness and contamination (including by AgLime or other fertilisers) and the truck drivers are aware of the requirement not to add water to any fertiliser load, during transport or after delivery.
- AeroLime™ does not become wet and is stored dry and free of material contamination, if transhipped after pick-up from Graymont and before final delivery to the storage facility.

- The farmer is advised that AeroLime™ must be stored dry and free of material contamination.
- Appropriate steps are taken to store the load so that it remains in good condition after unloading to the storage facility (e.g. ensuring bin doors are closed and/or covers are replaced and secured).
- The access ways and storage facilities are assessed according to the CAA Guideline checklist to ensure they are suitable for delivery of the AeroLime™, including checking that tip off areas are free of contamination and water.
- If the transport operator suspects that the storage area is in poor condition or the material is under threat of being contaminated or becoming wet then the transport operator should not deliver the product and inform the farmer (or PCBU), in writing, of the failure to meet the required standards and request that the deficiencies are made good.



HAZARD MITIGATIONS AND RESPONSIBILITIES

STORAGE ON FARM

Key Responsibilities: Farmer

- Farmer must assess the fertiliser storage system according to the CAA Guideline checklist before ordering delivery of fertiliser.
- Ensure that the airstrip owner has checked that the facilities are fit for purpose and that these safe conditions are maintained, once agreement is reached between the airstrip owner and the farmer.
- If the farmer becomes aware that any condition relating to the storage facility has become unsafe, the farmer shall cease work, until the condition has been evaluated and corrected.
- Ensure that the condition of the fertiliser remains free-flowing and continues to satisfy these requirements when being extracted from storage for use.

Key Responsibilities: Airstrip Owner

- Must ensure that suitable storage facilities are available at the airstrip which will ensure, subject to correct use, that the condition of the fertiliser remains free-flowing while in storage (fit for purpose), per the recommendations in appendix 1 of the CAA Guideline.
- The storage facility must be capable of maintaining the fertiliser in a clean and dry state and should be checked and if necessary repaired, prior to use.

Key Responsibilities: Aerial Operator

- Must ensure that loader drivers and pilots understand the flow property of the load and the fertiliser field test from the CAA Guideline, and have instructions to report any flowability issues to the aerial operator and the farmer if required.
- Ensure that a confirmation check of the suitability of the fertiliser is conducted immediately prior to a job.
- Advise the farmer, in writing, if the fertiliser fails to meet a standard that makes it fit for purpose and request that deficiencies are made good.
- Ensure that the fertiliser material has flow characteristics such that the criterion for jettison is achievable.
- Ensure that the fertiliser material will remain free flowing after placement in to the aircraft hopper.