

Incitec Pivot Fertilisers Quality Policy

Australian fertiliser company Incitec Pivot Fertilisers is committed to providing products and services that meet customer needs.

Manufacturing a wide range of fertilisers in Australia, Incitec Pivot Fertilisers also sources products from other Australian suppliers and overseas to offer a comprehensive product range.

In Australia, fertilisers must meet certain standards and be labelled in accordance with State Fertiliser Acts and the Fertilizer Industry Federation of Australia (FIFA) Code of Practice for Fertilizer Description and Labelling.

Incitec Pivot Fertilisers has set specifications for domestically manufactured and imported fertilisers that meet these standards. Routine laboratory analyses are performed to ensure products meet these specifications.

Farmers not only want to know that products they are buying are suitable for the intended use, they are also looking for advice on how to use them. Incitec Pivot Fertilisers is a Fertcare[®] accredited organisation.

The company's agronomists and sales advisory staff are also Fertcare[®] accredited.

Incitec Pivot Fertilisers also operates a soil, plant tissue and water analysis laboratory. This service is registered with the Australasian Soil and Plant Analysis Council (ASPAC) and the National Association of Testing Authorities (NATA).

Rural Industry Certification and Accreditation Programs "Approved Suppliers"

Food processors and supermarket chains often require farmers and graziers to implement Quality Assurance (QA) programs. Freshcare, the horticultural industry's farm assurance program, is an example.

As part of such programs, farmers are required to seek quality assurances from their suppliers of services and materials, including planting materials, soil ameliorants, fertilisers and chemicals, and only source these from approved suppliers that meet agreed specifications.

This brochure covers those topics that farmers and graziers most commonly raise with fertiliser suppliers. It provides information on Incitec Pivot Fertilisers products and the company's commitment to primary producers in the production of clean and safe food.

Domestic Fertiliser Manufacture

Incitec Pivot Fertilisers operates a number of manufacturing facilities throughout Australia.

DAP and MAP are manufactured at Phosphate Hill in north west Queensland using locally mined phosphate rock.

Anhydrous Ammonia (BIG N[®]), urea, and granulated ammonium sulfate (Gran-am[®]) are manufactured in Brisbane.

Granulock[®] compound fertilisers are manufactured at Phosphate Hill and Brisbane.

Single superphosphate (SuPerfect[®]) is manufactured at Geelong and Portland in Victoria.

Urea ammonium nitrate solution (EASY N[®]) is manufactured in the Hunter Valley.

Production from all these facilities is monitored through the company's own Quality Control Laboratories.

Fertiliser Imports

Incitec Pivot Fertilisers supplements local production with imports of a number of fertiliser products including urea, calcium ammonium nitrate (Cal-Am), DAP, MAP, triple superphosphate (Triple Super), potassium, urea ammonium nitrate solution, compound and trace element fertilisers.

Imported fertilisers are sourced in compliance with the FIFA Purchasing Code of Practice.

Product Specifications are set by Incitec Pivot Fertilisers' Market Managers that meet statutory limits and market needs. Certificates of Analysis are sought from suppliers.

The delivered products are then analysed through Incitec Pivot's own Quality Control Laboratories to ensure they meet analysis and are within specification, e.g. maximum limits of heavy metal impurities such as cadmium, lead and mercury.

Quality Assurance (QA)

Internal quality control systems are in place for fertilisers but external auditors are not engaged to accredit the processes, with the exception of some products manufactured in Brisbane.

These products are Ammonia (BIG N[®]), Urea, Gran-am and Granulock 15 and Big Z, which are Quality Assured to AS/NZS ISO 9001:2000 standards. A number of the products manufactured in Brisbane are used as raw materials in other industries and must be manufactured to exacting standards in which external certification is stipulated. Fertilisers have been included as part of the Brisbane site's overall QA program.

Fertiliser Impurities

Fertilisers contain various impurities. These are mostly derived from the raw materials used in their manufacture. Some impurities, such as biuret in urea, are produced in the manufacturing process.

Some of these impurities may accumulate in soils or plants, affecting the health of plants or grazing animals. Others potentially affect food safety and human health, and the marketability of farm produce.

Regulatory controls and industry standards have been set for these impurities, chief among which are:

- Biuret in urea and its impact on crop foliage when sprayed repeatedly;
- Fluoride (F) in phosphorus fertilisers (>2% P) and its potential impact on grazing animals when applied to pastures, or directly administered to animals as a mineral supplement;
- Heavy metal impurities (cadmium, lead and mercury) in phosphorus fertilisers and metallic trace elements. Of particular concern is cadmium in phosphorus fertilisers, and its uptake by vegetables.

Incitec Pivot Fertilisers declares the impurity content of fertilisers on the product label. The maximum concentrations are shown on the pack, a tag attached to the pack, or the Delivery Docket for bulk deliveries.

An Agritopic is available in which heavy metal impurities in fertilisers are discussed in more detail.

Cadmium

The food standards for cadmium in farm produce are most likely to be exceeded in root and tuber crops, e.g. potatoes, and leafy vegetables. Vegetable crops are usually fertilised with phosphorus at higher rates than other crops.

Potato (and other vegetable) growers should choose fertilisers with as low a cadmium content as possible, certainly no more 150 mg Cd/kg P. If repeated applications of phosphorus are made at high rates, e.g. more than 100 kg/ha P per crop, it is desirable that fertilisers containing less than 100 mg Cd/kg P be used.

In Australia, the maximum allowable concentration of cadmium (Cd) in phosphorus fertilisers is 300 mg Cd/kg P. Incitec Pivot SuPerfect[®] (single superphosphate) is manufactured to this specification. It is primarily used on pasture.

SuPerfect[®] must not be used when growing vegetables and in other risk situations where food standards for cadmium may be exceeded. Peanuts grown on sandy soils may also exceed the food standard for cadmium. Fertilisers with a lower cadmium content should be used in these circumstances.

As cadmium accumulates in soils, consideration not only needs to be given to the fertiliser used to grow crops most at risk of violating the food standards for cadmium, but also to that used in crops grown in rotation with them.

The high analysis phosphorus fertilisers marketed by Incitec Pivot Fertilisers (DAP, MAP and Triple Super) are low in cadmium compared to SuPerfect[®].

Incitec Pivot Fertilisers Triple Super contains a maximum of 150 mg Cd/kg P.

Incitec Pivot Fertilisers MAP and DAP produced at the company's facility at Phosphate Hill in northwest Queensland, and that imported from overseas, contain less than 50 mg Cd/kg P.

All the complete NPK blends on the Incitec Pivot Fertilisers product range that have been formulated for use in vegetable crops contain less than 150 mg Cd/kg P.

Microbial Contaminants

Microbial contamination of farm produce is often attributed to the use of untreated organic wastes, e.g. manures, close to planting or during the growing season. Freshcare guidelines stipulate that such materials should not be applied within 90 days of harvest, or 180 days of the intended harvest date where the harvestable part of the plant is grown in or in direct contact with the soil, has an edible skin and is generally eaten uncooked.

With the exception of Prolong, all the fertiliser products marketed by Incitec Pivot Fertilisers are inorganic. They are of mineral origin or are chemically synthesized, e.g. urea. The provisions relating to microbial contamination do not apply to these products as they are free of organic material.

Prolong is available ex: Geelong and is organically certified under the NASAA standard. Prolong is composted at temperatures exceeding 55oC for an extended period to eliminate pathogens.

Custom Blends with added processed organic matter (dried and pelletized poultry manure) are available ex some supply centres. Custom Blends are formulated on request to the customer's specific requirements. Poultry manure is not used in any of the blends listed on Incitec Pivot Fertilisers' product range.

Pesticide Contamination

The only agricultural chemical added to Incitec Pivot Fertilisers' products is Intake[®] Combi Fungicide for the control of Take-all in grain crops in southern Australia.

Planting fertilisers containing Intake[®] Combi Fungicide are clearly designated on the product label.

Allergens

An allergen is a substance that can cause hypersensitive immune response (allergic reaction) in some consumers. The reaction may potentially be life-threatening after exposure by ingestion, inhalation or contact with the skin.

Some people may develop allergies to certain foods or food ingredients including peanuts, tree nuts (e.g. cashews, almonds, walnuts), shellfish, finned fish, milk, eggs, wheat (and gluten), sesame and soybeans and their derivatives, and sulfite preservatives at concentrations above 10 mg/kg.

As part of their Quality Assurance programs, farmers are required to ensure farm produce is not cross contaminated with other known allergens.

Incitec Pivot Fertilisers' products do not contain any of the allergens listed above.

People with sensitive skin may suffer irritation to the skin, eyes and nasal passages from direct contact with or exposure to fertiliser dust or mist while handling and applying fertilisers. These conditions are not classified as allergies.

Mineral Supplements for Livestock

Some, but not all Incitec Pivot products may be used as non-protein nitrogen and mineral supplements for ruminants (cattle, sheep, goats).

The Incitec Pivot products that may be used as livestock supplements are listed in the following table. Agricultural and veterinary chemicals, e.g. insecticides, antibiotics, growth regulants, are not used in their manufacture.

Common Name	Product Name
Urea	<ul style="list-style-type: none"> • Incitec Pivot Prilled Urea • Incitec Pivot Stockfeed Urea • Liquifert N • Incitec Pivot Granular Urea
Ammonium sulfate	<ul style="list-style-type: none"> • Incitec Pivot Gran-am[®]
MAP	<ul style="list-style-type: none"> • Liquifert P
Potassium chloride	<ul style="list-style-type: none"> • Incitec Pivot Muriate of Potash

The maximum impurity concentrations for fluorine, cadmium, lead and mercury in these products are detailed on the product label, and are within statutory requirements.

The granular phosphorus fertilisers marketed by Incitec Pivot Fertilisers, e.g. DAP, MAP, Triple Super and SuPerfect[®] must not be used as phosphorus supplements. These products are too high in fluorine (F) for direct mineral supplementation to livestock.

Storage Life and Use-By Dates

Expiry dates are not applicable to the fertilisers marketed by Incitec Pivot Fertilisers with the exception of some products containing inhibitors, e.g. Green Urea 7 and Green Urea 14.

Provided dry granular fertilisers are protected from the elements and are kept dry, they should store indefinitely. They will not change chemically with the passage of time.

Fertilisers, and their packaging, may deteriorate physically over time. Woven polypropylene (WPP) fertiliser packs deteriorate if exposed to sunlight. Pressure setting may occur in storage.

Some fertilisers do not store as well as others. Ammonium nitrate fertilisers such as Incitec Pivot Cal-Am have a low Critical Relative Humidity and are more likely to absorb atmospheric moisture than most other fertilisers. Moisture absorption may lead to caking and setting.

This may make the fertiliser difficult to use. However, provided the fertiliser can be satisfactorily applied, its nutrient value will not have changed in any way.

Likewise, nutrients are not lost from liquid fertilisers marketed by Incitec Pivot Fertilisers during storage. Salting out may occur at low temperatures or if water is lost from the fertiliser solution through evaporation.

Nutrient Advantage

Incitec Pivot Fertilisers has Australia's oldest commercial soil testing service, with antecedent companies having operated laboratory services since 1963.

The Nutrient Advantage Laboratory is located at Werribee in Victoria. It is equipped to process in excess of 100,000 soil, plant tissue and water samples per year.



The laboratory is accredited by the National Association of Testing Authorities (NATA) and operates in accordance with the international standard ISO/IEC 17025.

The laboratory's scope of accreditation is freely available on the NATA website www.nata.asn.au under Accreditation No: 11958.



In order to meet a requirement of NATA accreditation the laboratory regularly participates in inter-laboratory proficiency studies coordinated by the Australasian Soil & Plant Analysis Council (ASPAC). The Nutrient Advantage Laboratory is certified by ASPAC as meeting the proficiency criteria for a wide range of soil and plant nutritional assays.

Management and staff at the Nutrient Advantage Laboratory are committed to generating high quality analytical results in a timely fashion in order to support fertiliser application recommendations.

The "Nutrient Advantage" Decision Support System is used to report laboratory results and recommend nutrient rates and products to customers. The company's agronomists developed this software program. It is based on many years of research, consultation with Government researchers and advisers, and experience.

Fertcare[®]

Fertcare[®] is the national training and accreditation program of the Fertilizer Industry Federation of Australia (FIFA). It aims to ensure that farmers receive consistent and quality advice on using fertilisers for optimum production, protection of the environment and food safety.

Incitec Pivot Fertilisers is Fertcare[®] accredited organisation.

Incitec Pivot Fertilisers' field staff undertake training soon after being appointed to an advisory position.

Fertcare[®] accredited advisers are independently assessed and audited. This helps ensure that the detailed plant nutrition advice that they provide, based on soil and tissue testing, takes account of environmental and food safety issues and is based on the best available science.

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