



DENSITY & SIZING

Incitec Pivot manufactures and imports fertilisers, from various suppliers. Typical density and sizing data for the more commonly used products is shown in the following table. These can vary between manufacturers/suppliers and over time, and consequently may differ from the stated values.

DENSITY

The **Specific Gravity** measures the weight of individual granules, and compares this with water, which is ascribed a Specific Gravity of 1. As such, it is a ratio, and has no units.

The **Bulk Density** is the weight of the product in a given volume, e.g. kg per cubic metre (m³) or kilolitre (kL). It takes into account the space/air between the granules and is typically about 50 – 60% of the Specific Gravity, when expressed on a volumetric basis.

SIZING

Fertilisers that are uniform in their particle size have more consistent flow rates and are less prone to segregation when used in blends. Most fertiliser manufacturers aim to produce fertilisers in which the majority of granules are in the 2 to 4 mm range.

Size Guide Number (SGN)

The Size Guide Number is the diameter of the “average particle” in millimetres (mm) multiplied by 100. The average particle size of a fertiliser with a SGN of 300 is 3 mm. 50% of the particles will be retained on a 3 mm screen, 50% will pass through it.

UI (Uniformity Index)

The Uniformity Index is a method of determining how consistent the granule diameter is. It compares the particle size at which 95% of the fertiliser is retained on a screen, divided by the particle size at which 10% is retained (and 90% passes through the screen), multiplied by 100.

The higher the number (UI), the greater number of particles that are close in size to the SGN. A UI of 100 means all the granules have the same size. A Uniformity Index of 50 means that the average diameter of the small particles is half that of the large particles. A UI of 50 is considered to be good.

ANGLE OF REPOSE

Most granular and prilled fertilisers have an angle of repose of around 35°. This varies with the type of fertiliser, granule size and shape, and quality (presence of fines and dust).

SAFETY DIRECTIONS

Refer to the Safety Data Sheet (SDS) for more detailed safety advice. Before use, read the Product Label and the SDS. Use safe work practices and avoid contact with the eyes and skin. Avoid



ingestion and inhaling dust. Protective clothing, eyewear and dust masks should always be used when dealing with this product. Observe good personal hygiene, including washing hands after use. Avoid loss of fertiliser to waterways.

WARNING

This document contains information of a general nature. Before using fertiliser seek independent agronomic advice. Fertiliser programs may need to be varied depending on the plants being grown, climatic and soil conditions, application methods, irrigation, agricultural and livestock management practices, the soil's fertility, and cultural practices. ('Unforeseen Elements')

Fertiliser may burn and/or damage crop roots or foliage. Foliar burn to the leaves, fruit or other plant parts is most likely to occur when fertilisers are foliar applied at high concentrations and/or on a regular basis, different products are mixed and sprayed together at cumulatively high rates, the water is of poor quality, or the spray is applied under hot dry conditions, e.g. in the heat of the day.

Fertiliser and supplements may affect animal health. Seek independent advice before using any supplements in livestock rations.

DISCLAIMER

As Unforeseen Elements are beyond the control of Incitec Pivot Limited, in no event Incitec Pivot Limited and its related bodies corporate be liable or accept any responsibility whatsoever for any direct, indirect, punitive, incidental, special or consequential damages (including but not limited to loss of revenue, crops and livestock), in respect of the illness, injury or death of a person, damage to property (including of a third party), or any other loss whatsoever arising out of or connected with the use or misuse of this fertiliser, or its transport, storage, handling or application. Where Incitec Pivot Limited and its related bodies corporate's liability cannot be lawfully excused, it and its related bodies corporate's liability shall be limited to the replacement of, or cost of the fertiliser supplied. The buyer accepts and uses this product subject to these conditions.

COPYRIGHT

Copying or reproduction in whole, or in part, by any means, or transmission, or translation into a machine language without the written permission of Incitec Pivot Limited, is strictly prohibited.



Typical density and sizing data for commonly used products

	Granular Urea	Cal-Am	Gran-am	DAP	MAP	Granulock Z	SuPerfect Geelong	Muriate of Potash	Sulfate of Potash	Granulock Blue
Specific Gravity	1.33	2.0	1.77	1.62	1.80	1.85	2.3	2.0	2.66	NA
Bulk Density (kg/m³)	700 – 800	950 – 1,150	800 – 1,000	900 – 1,100	900 – 1,100	900 – 1,100	1,100 – 1,300	1,000 – 1,200	1,200 – 1,400	1,000 – 1,200
Size Guide Number (SGN)	290	375	300	300	300	300	340	300	295	385
Uniformity Index (UI)	55	55	50	60	60	60	40	50	50	35
Undersize (< 2 mm)	2	5	10	5	5	5	3	6	5	1
Target (2 - 4 mm)	93	65	75	90	90	90	70	90	90	69
Oversize (> 4 mm)	5	30	15	5	5	5	27	5	5	30

©Nutrient Advantage, Granulock, Gran-Am, Big N, Easy N, Green Urea NV, enPower, Sitadel, Trigger, SuPerfect, Boosta, Cal-Am and Cal-Gran are registered trademarks of Incitec Pivot Limited. Incitec Pivot Fertilisers is a business of Incitec Pivot Limited, ABN 42 004 080 264.

©Fertcare is a registered trademark of Australian Fertiliser Services Association, Inc.

This is a guide only, which we hope you find useful as a general tool. While Incitec Pivot Fertilisers has taken all reasonable care in the preparation of this guide, it should not be relied on as a substitute for tailored professional advice and Incitec Pivot Fertilisers accepts no liability in connection with this guide.