

EASY U Sol

Liquid Nitrogen Fertiliser

EASY U Sol is a clear to hazy liquid.

EASY U Sol can be applied to the soil as is, i.e. neat, be diluted in water, e.g. with irrigation water (fertigation programs), or applied as a foliar spray in some crops. It can be applied alone as a nitrogen fertiliser or mixed with other fluid fertilisers.

ANALYSIS (weight/volume)

26 % Nitrogen (N) w/v as urea (260 g/L N)

SPECIFIC GRAVITY

EASY U Sol has a specific gravity at 20^o C of 1.14.

This gives EASY U Sol an analysis on a weight/weight basis of 23 % N w/w (230 g/kg N).

“SALTING OUT” AT LOW TEMPERATURE

Most liquids have a ‘salt out’ temperature. This is the temperature at which crystal precipitation and growth occurs because the solution is over-saturated and the water can no longer keep the salts in a dissolved state. With EASY U Sol this ‘salt out’ temperature is at or near 18°C. If other soluble salts or solutions containing salts are added to EASY U Sol, the ‘salt out’ temperature will change.

Given this relatively high salt out temperature, storing EASY U Sol over the winter months is not recommended.

DIRECTIONS FOR USE

EASY U Sol has a pH of 8.0 - 9.0.

EASY U Sol can be used as an alternative to solid nitrogen fertilisers where it is more convenient to apply the fertiliser as a liquid rather than as a solid.

EASY U Sol is popular where nitrogen is to be applied in solution, e.g. fertigation programs, as it avoids the need for bag handling and dissolving solid nitrogen fertilisers on farm.

EASY U Sol can be applied to the soil in the same way and at the same times as solid (dry) nitrogen fertilisers, provided equipment is available to apply it. The product can be applied pre-plant, at planting (away from the seed) or be side or top-dressed. It can be applied into the soil or onto the soil surface.

If surface-applied, incorporation, e.g. by cultivation or irrigation shortly after application, will reduce the risk of volatilisation losses of ammonia. Rain, e.g. 10 – 15 mm or more, depending on the amount of plant material on the soil surface and the texture of the soil, will also carry the fertiliser into the soil.

EASY U Sol can also be applied in irrigation water and as a foliar spray in selected crops such as cotton.

EASY U Sol is not recommended for use in hydroponic solutions.

The ways in which EASY U Sol might be applied are discussed here in more detail.

Pre-plant application in Annual Crops

Spray onto the soil surface, preferably incorporating afterwards, or inject behind tines into the soil.

If applied into prepared beds in row crops close to planting time, apply deeper into the soil than the intended depth of seeding, or offset to the side of the intended position of the row.

Planting

Apply between the rows or behind non-seeding tines. If applied behind seeding tines, ensure the fertiliser does not come in contact with the seed or planting material, e.g. band 5 cm to the side of and 5 cm below the seed or transplants in row crops.

Top-dressing

When top-dressing crops planted at narrow row spacings or pasture, it is impossible to avoid leaf wetting. As a result, some leaf burn may occur. This can be minimised by using coarse streaming nozzles so that the maximum amount of the fertiliser solution runs off the leaves onto the soil and the minimum amount remains on the leaves. Follow up rain is necessary to carry the fertiliser into the soil and crop root zone. If irrigation is available, it can be applied immediately afterwards.

Side-dressing

In row crops, apply the fertiliser to the side of the rows, either to the soil surface or place into the soil. Avoid leaf wetting.

If injected into the soil, apply far enough to the side of the rows to avoid root pruning and fertiliser burn to the crop roots.

Avoid application in the centre of the inter-row space where utilisation of fertiliser will tend to be poor given the distance the plants roots have to grow to reach it. In addition, the soil is more likely to be compacted and waterlogging is more likely to occur in this area.

Fertigation

This is one of the most popular ways in which EASY U Sol is applied, particularly in horticulture. EASY U Sol can be injected straight into the lines, without further dilution in water. Unlike solid fertilisers, there is no need to weigh out and dissolve the fertiliser.

EASY U Sol can be applied through all types of fertigation systems, including overhead sprinkler systems, as the fertiliser solution which comes in contact with plant leaves will be very dilute (compared with applying EASY U Sol without further dilution as a foliar spray).

With fixed line overhead sprinkler systems, inject the fertiliser into the fertiliser lines over a reasonable period of time, e.g. mid third of the shift, leaving the last third to flush the lines and wash any fertiliser solution from the leaves.

With travelling irrigators, this will not be possible, but given the dilution that occurs when the EASY U Sol fertiliser solution is being injected continuously, foliar burn is unlikely to occur.

With flood or furrow irrigation systems, EASY U Sol can be injected directly into the main irrigation channel with the irrigation water.

Foliar Fertilisation

There are limits to the amount of nitrogen that can be applied in foliar sprays without burning the leaves. With few exceptions, foliar nitrogen sprays can be used to supplement soil-applied fertilisers, but rarely can they be used to replace soil applications entirely. Crops (and varieties) vary in their susceptibility to leaf burn.

EASY U Sol is normally applied neat, without further dilution in water, in foliar sprays. Its attraction over other nitrogen sources is its high concentration, allowing large areas to be covered quickly with low volume spray equipment, e.g. in grain and cotton. Urea is the preferred nitrogen source where dilute nitrogen sprays are used in high volume sprays, e.g. horticulture.

For more information on using EASY U Sol in specific crops, see the Crop Guides section.

SOIL APPLICATION RATES

Soil application rates will be dictated by the nitrogen requirements of the crop.

Usually, other nutrients, e.g. sulfur (S) or potassium (K) will need to be applied simultaneously with nitrogen (N).

In many situations, e.g. horticultural crops, it is customary to split the seasonal fertiliser needs into a number of smaller applications, e.g. when fertiliser is being applied in the irrigation water (fertigation programs).

COMPATIBILITY

With Other Fertilisers

EASY U Sol is compatible with EASY N, EASY NS, EASY NP, EASY NP +Zn, EASY ATS, EASY Cal, Coppersol, Zincsol, Mangasol and Topfoliar.

If EASY U Sol is mixed with EASY NPK 27, potassium nitrate crystals may form. These can be dissolved when sufficient water is added to the mixture. To avoid this, dilute EASY NPK 27 in an equal quantity of water before adding the EASY U Sol.

EASY U Sol is not compatible with and should not be mixed with EASY PK, EASY KS, Coppersol, Zincsol, Topfoliar or Mangasol.

With Crop Protectants

If tank mixes of EASY U Sol and crop protectants are being considered, check the label of the crop protection product, and only mix the products if it specifically states that it is safe to do so.

Compatibility is dependent partly on the number of additives and the rates at which they are to be applied, water quality (if diluted), application equipment (degree of agitation) and other factors such as time and method of application. Compatibility checks should be carried out even if the chemical manufacturer has recommended the proposed mix.

Checks need to cover -

- Physical compatibility
- Phytotoxicity to the crop at the target growth stage
- Efficacy of the crop protection product(s)
- Efficacy of surfactant and suspending agents (compatibility aides)

If compatibility information does not exist and a joint application is desired, prepare a small amount of the proposed mix and allow to stand in a glass jar over night and observe for signs of incompatibility.

A small quantity of the test mix should then be sprayed on a small area of the target crop and observed for 3 to 4 days for any phytotoxic effects.

For further information, Agritopics on “Fertigation” and “Foliar Fertilisers” are available if required, and should be read in conjunction with these “Use Directions”.

STORAGE AND CARE OF EQUIPMENT

Store in a cool place, away from direct sunlight. Keep containers closed to minimise evolution of ammonia from the fertiliser solution.

EASY U Sol is corrosive to many metals.

Appropriate materials for storing EASY U Sol include High-Density Polyethylene (HDPE), stainless steel and fibreglass.

Do not store EASY U Sol in tanks of mild steel, aluminium, brass or copper alloys, concrete or galvanised steel.

Flush application and fertigation equipment after use with water only.

Where applied through fixed irrigation lines, discontinue use towards the end of the shift to flush fertiliser from the lines and off crop foliage. This minimises corrosion and the risk of leaf burn.

Refer to the Handling, Storage and Transport section of the EASY Liquids manual for further details, including appropriate materials for pumps, pipes, plumbing, valves and fittings.

SAFETY DIRECTIONS

Avoid contact with eyes or skin. Wash hands after use. Avoid inhaling mist.

Refer to the EASY U Sol MSDS (Material Safety Data Sheet) for more specific instructions.

WARNING

Before using fertiliser seek appropriate agronomic advice. 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 different products are mixed and sprayed together, the water is of poor quality, or the spray is applied under hot dry conditions, eg. in the heat of the day. Because climatic and soil conditions, application methods, irrigation and agricultural practices are beyond the control of Incitec Pivot Limited and cannot be foreseen, Incitec Pivot Limited accepts no responsibility whatsoever for any commercial damage, loss or other result following the use of this product whether used in accordance with directions or not, subject to any overriding statutory provision and provided that such liability under those provisions shall be limited to the replacement of the goods as supplied or the rendering again of the services that are provided. The buyer accepts and uses this product subject to these conditions.

In providing these guidelines, Incitec Pivot Limited does not assume a duty of care.

Users of EASY U Sol should ensure that storage and use of the product complies with statutory requirements.

To the extent permissible by law, Incitec Pivot makes no representations or warranties (express or implied) that the information contained in these guidelines will be suitable in all situations.

Independent advice may need to be obtained if users are uncertain about the set up and operation of storage tanks for EASY U Sol specific for their conditions.

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Incitec Pivot Limited
PO Box 1322
Melbourne
Vic 3001
Phone 03 8695 4400
www.incitecpivot.com.au