Quality Ingredients
Australian Made
Family Owned

SL TEC®
FERTILIZERS

Nutrient Solutions

SS 11:16:0™
Technical Fact Sheet

www.sltec.com.au

Technical Information

What is SS 11:16:0?

SS 11:16:0 is an orthophosphate form of phosphorus, meaning that the molecular structure contains one phosphorus atom. Orthophosphate is the form that phosphate is taken up as by plants. Ammonium nitrogen assists in the uptake efficiency of the orthophosphate.

The following attributes make SS 11:16:0 an excellent choice;

- pH of 6.0 - 7.0
- Low salt index
- Chloride free

Why Ammonium Nitrogen

The ammonium form of nitrogen in **SS 11:16:0** is ideally suited for combination with phosphorus.

Many observations have found that phosphorus uptake is enhanced when in combination with ammonium nitrogen (NH_4^-N). In most cases, NH_4^-N has been shown to be superior to other forms of nitrogen at improving phosphorus uptake. This benefit typically requires that the nitrogen and phosphorus be applied in either a chemically combined form or as a concentrated mixture. The mechanism for this reaction is thought to be that as the NH_4^-N undergoes nitrification, phosphorus uptake is increased. It is also well known that increased nitrogen uptake stimulates the uptake of many other elements, and this may play a role in the effect.

SS 11:16:0 – Fertigation in Horticulture

SS 11:16:0 is an excellent product for its ability to deliver available phosphorus to the plant at required growth stages.

Our ability to deliver the nutrients with water means the nutrients are going directly to where the root mass is and hence maximises the efficiency.

In understanding the plant's phosphorus requirements at different phenological stages and nutrient demands **SS 11:16:0** allows us to maximise phosphorus applications.

We can provide the plant with the correct amount of phosphorus and nitrogen in the available forms providing excellent use efficiency of both. (Which is not traditionally the case with phosphorus applications in particular).

SS 11:16:0 – Foliar Applications

SS 11:16:0 can be used to great effect to assist in amending nutrient deficiencies in a wide range of crops and assisting a stressed crop.

SS 11:16:0 can also be blended with a wide range of agricultural chemicals, for complex tank mixes. **Please consult with your SLTEC® representative for more information.*

SS 11:16:0 – at planting

Apply **SS 11:16:0** at planting can give your crop a strong, healthy start with the perfect blend of available ammonium nitrogen and orthophosphate to promote growth, high yield and quality at the critical plant establishment phase.

Cereals & Row Cropping

SS 11:16:0 can be banded safely below or next to seed or seedlings in cereals and row crops to stimulate germination.

Seedlings

SS 11:16:0 can also be used to great effect with a wide range of vegetable and other seedlings as a drench or at planting to assist in reducing planting shock and stimulating early activity.

Bare Rooted Trees

SS 11:16:0 with the addition of kelp can assist in stimulating early root activity and reduce planting shock in bare-rooted trees and can be applied as a drench or applied at planting.

*SLTEC'S range of EDTA chelates and Bio Kelp 20 are all compatible with **SS 11:16:0** to meet the grower's specific needs at planting.

Compatibility with 11:16:0 & Derivatives

SLTEC® has an extensive database of compatibility with both fertilizers and agricultural chemicals. This provides tremendous flexibility to the usage of SS 11:16:0 and its derivatives.

SLTEC® is also happy to test any proposed compatibility that we don't already have in our database.

SS 11:16:0 Product Flexibility

SLTEC® prides itself on its ability to meet the needs of our clients to their explicit needs. **SS 11:16:0** is no different it can be blended with a number of other nutrients or have the ratio of nitrogen and phosphorous altered.

SS 11:16:0 is compatible with;

- Potassium
- Sulphur
- Zinc
- Copper
- Manganese
- Iron
- Boron
- Molybdenum
- Kelp

SS 11:16:0 Derivatives

Product Code	Name	N% (w/v)	P% (w/v)	K% (w/v)	S% (w/v)	Specific Gravity (kg/L)	pH Range	Typical Application Rates			
								Fertigation	Foliar Use 200 to 2,000 L/ha water	Direct Soil Spray	Liquid Sowing
SS9001	**SS 11:16:0** N as NH_4 11.3%, P as PO_4 16.0%	11.3	16.0	-	-	1.30	6.0 - 7.0	20 - 100 L/ha	5 - 20 L/ha	50 - 200 L/ha	30 - 60 L/ha
SS0014	**Corn Popup** N as NH_4 8.8%, P as PO_4 11.1%, Zn 1.9%, Mo 0.004%, B 0.04%	8.8	11.1	-	-	1.26	6.0 - 7.0	20 - 100 L/ha	5 - 20 L/ha	50 - 200 L/ha	30 - 60 L/ha
SS9013	**Faba Bean Pop-Up** N as NH_4 10.3%, P as PO_4 13.8%, Zn 0.7%, Mo 0.005%, B 0.05%	10.3	13.8	-	-	1.28	6.0 - 8.0	20 - 100 L/ha	5 - 20 L/ha	50 - 200 L/ha	30 - 60 L/ha
SS9003	**SS 10:14:0 + Zn** N as NH_4 10.1%, P as PO_4 14.0%, Zn 1.0%	10.1	14.0	-	-	1.28	6.5 - 7.0	20 - 100 L/ha	5 - 20 L/ha	50 - 200 L/ha	30 - 60 L/ha
SSCB0011	**SS 11:8:0 6S** N as NH_4 10.9%, P as PO_4 7.8%	10.9	7.8	-	6.1	1.26	6.0 - 7.0	20 - 100 L/ha	5 - 20 L/ha	50 - 200 L/ha	30 - 60 L/ha
SSCB0010	**SS 10:7:0 SZ** N as NH_4 10.4%, P as PO_4 7.1%, Zn 0.3%	10.4	7.1	-	6.0	1.26	6.0 - 7.0	20 - 100 L/ha	5 - 20 L/ha	50 - 200 L/ha	30 - 60 L/ha
SSCB0007	**SS 8:10:0 + Zn** N as NH_4 8.3%, P as PO_4 10.1%, Zn 2.3%	8.3	10.1	-	-	1.26	6.0 - 8.0	20 - 100 L/ha	5 - 20 L/ha	50 - 200 L/ha	30 - 60 L/ha
SS9009	**SS 10:14:0 + Zn & Kelp** N as NH_4 10.2%, P as PO_4 13.6%, Zn 0.8%, Kelp 1.9%	10.2	13.6	0.3	-	1.29	6.0 - 7.0	20 - 100 L/ha	5 - 20 L/ha	50 - 200 L/ha	30 - 60 L/ha
SSCB0005	**SS 10:14:0 + Kelp** N as NH_4 10.4%, P as PO_4 14.4%, Kelp 1.9%	10.4	14.4	-	-	1.30	6.0 - 7.0	20 - 100 L/ha	5 - 20 L/ha	50 - 200 L/ha	30 - 60 L/ha

Why use SS 11:16:0 at Post Harvest?

Given **SS 11:16:0** contains a 100% plant available form of orthophosphate it is ideal for post-harvest applications in all tree and vine crops.

As the plant starts to shut down, lose leaves and the soil temperature decreases, the plant's ability to take up nutrients for carbohydrate reserves is reduced. This makes it critical that we deliver the plant with the most available forms of nutrients possible.

APP has been commonly used as a form of phosphorus for post-harvest but unlike **SS 11:16:0** it needs to be converted over time into the orthophosphate form which can be affected by many factors. APP is a polyphosphate, meaning that the molecular structure contains many phosphorus atoms linked together.

Polyphosphate needs to convert to orthophosphate (already the form of phosphorus in **SS 11:16:0**) before it can become plant available. This is achieved through hydrolysis in the soil with a supply of H^+ ions, usually the majority of which are supplied from plant roots during the uptake of ammonium-N.

Numerous factors that can influence the time it takes for APP to convert to orthophosphate including soil pH, soil temperature, moisture content and soil texture. As a guide, in calcareous soils, the time needed to degrade 50% of the phosphorus (half-life) is 14 to 21 days (Khasawneh et al., 1974 and 1979). That equates to approximately 70 to 105 days (5 half-life periods) before 97% of the phosphate applied can be plant available as opposed to our orthophosphate which is 100% plant available at the time of application.

Given the small window of opportunity for post-harvest nutrient uptake and carbohydrate storage required for bloom and early spring growth, **SS 11:16:0** is a more effective option than APP.

Enhance Your SS 11:16:0 Post Harvest Application

Australian Organic Registered Farm Input
ALLOWED INPUT 11936

QuadSHOT® is an excellent tool in assisting in maximising your post-harvest applications especially when the following factors are considered;

- Soil temperature - **QuadSHOT®** can increase soil temperature through increased soil biology activity thus increasing root activity and the uptake of nutrients
- Health of the plant – if stressed root activity may be reduced
- Phenological stage of the plant – root activity will be reduced, as the plant moves into dormancy.
- Environmental conditions – cool conditions

QuadSHOT® is proven to stimulate activity in the soil biology and enhance nutrient cycling and availability.

Like SLTEC's fertilizer range the biostimulants in **QuadSHOT®** can also have their ratios altered to meet the customers' specific needs.

Guaranteed Analysis

Fish Emulsion	**8.0%**
Kelp	**8.0%**
Molasses	**8.0%**
Humic Acid	**6.6%**
Fulvic Acid	0.3%
Nitrogen (N)	0.3%
Phosphorus (P)	0.1%
Potassium (K)	3.4%
Sulphur (S)	0.2%
Carbon (C)	5.2%
Calcium (Ca)	0.2%
Iron (Fe)	0.006%
Specific Gravity	1.15 - 1.16 kg/L
pH	10.0 - 11.0

APPLICATION RATES

Typical Fertigation (via irrigation systems) Application Rates:
Apply at 20 to 100 L/ha toward the end of the irrigation shift. Know your injection lag times and allow adequate time, following the injection of the product, to flush the irrigation system out with clean water, including all mainlines, submains and lateral delivery systems.

Typical Application Rates (At Planting, Directed Soil Spray):
10 to 40 L/ha, at planting (banded with seed), with 10 to 100 L/ha of water (depending on crop).
10 to 50 L/ha, at planting (when banded >25mm to the side or below the seed), with 10 to 100 L/ha of water (depending on crop).
50 to 200 L/ha as a directed soil spray, prior to planting, with 50 to 100 L/ha water, or irrigated in after application (depending on crop).

Typical Foliar Application Rates:
Horticulture: 1 to 5 L/ha with 200 to 2,000 L/ha water.
Broadacre & Pasture: 2 to 20 L/ha with at least 100 L/ha water.

GUIDING PRINCIPLES

Before using SS 11:16:0, seek appropriate agronomic advice via SLTEC's Balanced Agronomy services and dealer agronomist network.

Soil analysis combined with plant tissue (or SAP) analysis are recommended to assist in making an informed decision about which product best meets your crop, soil and general environmental conditions.

Fertilizer can burn and or damage crops and pasture.

Because climatic and soil conditions, application methods, irrigation and management practices are beyond the control of Sustainable Liquid Technology Pty Ltd and cannot be foreseen, Sustainable Liquid Technology Pty Ltd 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.

PRODUCT INFORMATION

PRODUCT STORAGE

Keep material in a cool, dry, well ventilated area, away from direct sunlight, between 10 to 30°c. Store product in suitable containers made from material such as stainless steel, high density polyethylene and fibreglass. Fluid fertilizers can be corrosive to material such as brass, copper, zinc or alloys of these metals. Clean equipment after use thoroughly with clean fresh water. Use SLTEC's Fert Tank Cleaner to rinse fertilizer tanks and transfer systems. SS 11:16:0 is recommended for use within 12 months from dispatch date.

WARNING & SAFETY INFORMATION

WARNING: Do not swallow. The spray from this product may act as an irritant. Avoid inhalation and contact with the eyes and skin. Wear rubber gloves and appropriate eye protection when handling the product. See the product MSDS for more information, www.sltec.com.au

Batch No. or Tank Number & Date: **Dispatch Date:**

PO Box 43 / 2055 Finlay Road
TONGALA VICTORIA 3621
P: 1800 768 224 **F:** 03 5859 1363
E: enquiries@sltec.com.au
ABN: 63 234 073 378 **ACN:** 113 670 269
www.sltec.com.au

9 341752 001756

100% AUSTRALIAN MADE

Organisation FERTCARE®

1800 768 224
enquiries@sltec.com.au

@Sltecfert

www.sltec.com.au