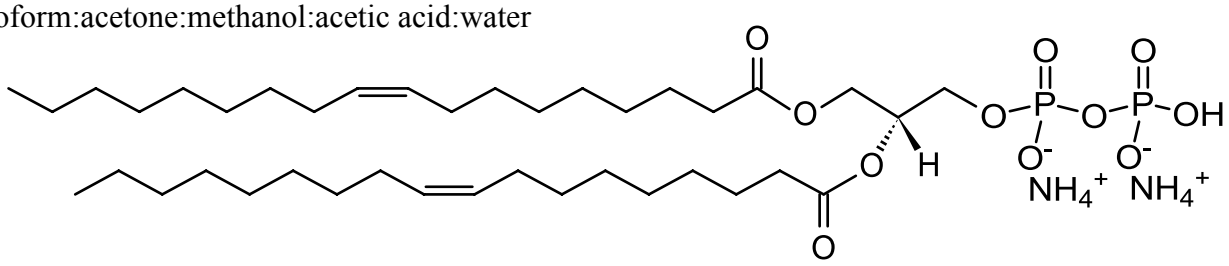
Technical Data Sheet

18:1 DGPP Dioleoylglycerol Pyrophosphate (ammonium salt)

Catalog Number	810811	**Physical state**	Powder
Purity	> 95%	**Transition temp.**	No data
CAS	474943-14-1	**CMC**	No data
Synonyms	DiC18:1 DGPP; long chain DGPP; diacylglycerol pyrophosphate	**PKA**	No data
Molec. Formula	$C_{39}H_{80}N_2O_{11}P_2$	**TLC mobile phase**	C:Acetone:M:Acetic Acid:W*, 50:15:13:12:4, v/v; TLC plate sprayed with 1% Potassium Oxalate
MW	815.020	**Exact Mass**	814.524
Percent composition	C 57.47% H 9.89% N 3.44% O 21.59% P 7.60%		
Stability	Store in <-20°C freezer for up to six months (powder only). **Stable in solution for 1-2 days at <-20°C as DiC18:1 DGPP immediately starts to break down into phosphatidic acid.**		
Solubility	Soluble in chloroform at 25 mg/mL. Insoluble in water.		
Web link	810811		

*chloroform:acetone:methanol:acetic acid:water



Description: DGPP is produced by the phosphorylation of phosphatidic acid (van Schooten et al, 2006) and has been found in plants (Munnik et al, 1996; Zalejski et al, 2006), *Saccharomyces cerevisiae* (Carman, 1997), and *Escherichia coli* (Carman, 1997). DGPP has been shown to be a phospholipid second messenger in abscisic acid signaling, a novel signaling pathway (van Schooten et al, 2006; Zalejski et al, 2006). This role may be important in triggering homeostatic cellular responses (Balboa et al, 1999).

Product use:

DiC18:1 DGPP is added to a test tube as a chloroform solution and the solvent is removed (for more information on how to remove the solvent, see technical information on Avanti's website). Add 0.5% Tergitol detergent solution and add to cells.

Biological application- "I am not sure how well the long chain DGPP is taken up in yeast cells, that is why we synthesized the DiC8 compound. We only use the long chain compound as a standard for TLC, HPLC and for DGPP phosphatase assays.

Storage conditions- Store concentrated (~25 mg/mL) in chloroform. Concentrations below 10 mg/mL are not as stable." Personal communication, George M. Carman, Sept. 1999.

References:

• van Schooten et al. (2006) Signalling diacylglycerol pyrophosphate, a new phosphatidic acid metabolite. Biochim Biophys Acta. 1761(2):151-9
• Zalejski, C et al (2006) Induction of abscisic acid-regulated gene expression by diacylglycerol pyrophosphate involves Ca2+ and anion currents in Arabidopsis suspension cells. Plant Physiol. 141(4): 1555-62
• Balboa, MA et al (1999) Proinflammatory macrophage-activating properties of the novel phospholipid diacylglycerol phosphate. J Biol Chem. 274: 522-6
• Carman GM (1997) Phosphatidate phosphatases and diacylglycerol pyrophosphate phosphatases in Saccharomyces cerevisiae and Escherichia coli. Biochim Biophys Acta 1348, 45-55
• Munnik T et al (1996) Identification of diacylglycerol pyrophosphate as a novel metabolic product of phosphatidic acid during G-protein activation in plants. J Biol Chem, 271, 15708-15

Related Products: DGPP

MSDS: see www.avantilipids.com for product number 810811

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