



P-FFA

PRODUCT DATA SHEET

1/10/22

P-FFA (PETROCHEM - FREE FLOW ADDITIVE)

TECHNICAL DATA

FUNCTION

- **P-FFA** is a solid adsorption product that reduces and/or eliminates the build-up of static electricity when transferring materials such as cement, propping agents, and minerals. These materials can be handled more efficiently with less product loss as a result of the incorporation of this additive. The product not only minimizes static electricity, but it also alleviates air entrainment due to particle agglomeration.
- **P-FFA** is a newly developed, specialty compound designed to significantly reduce the time for loading, transfer and off-loading of fine particulates. The product reduces and/or eliminates the build-up of static electricity when transferring materials such as cement, cement blends, propping agents and minerals. Particulates can be handled efficiently with more complete material transfer. It has been extensively laboratory tested and field proven to not only diminish static electricity, but also to alleviate air entrainment due to particle agglomeration.

BENEFITS

- It can greatly improve the transfer of bulk materials.
- It can reduce surging.
- It alters the pack-set index (PSI) of the cement blend.
- It can help improve flow by reducing the effect of environmental factors such as temperature, humidity and transfer conditions such as system pressure and tank design.
- It can help offset the effect of tanks with a low angle of repose, such as horizontal or marine tanks.
- It increases the tensile, compressive, and shear strength of the cement.
- **P-ESA** is compatible with all cement systems and cement additives. Special cement systems having a high viscosity, such as Thixotropic Cement or high gel cement, should be pre-tested with **P-ESA** to ensure that the resulting slurry is not too viscous.

APPLICATION

- Positive and negative charges are distributed across the surfaces of cement particles, resulting in forces of attraction and repulsion. These forces are largely responsible for a cement blend's ability or inability to flow well in a pneumatic transfer system. When **P-FFA** additive contacts cement particles, it reacts with charged particle surfaces, causing repulsion to be the dominant force within the blend. For certain cement blends that have historically exhibited material losses between 30 & 60%, P-FFA additive can reduce losses to less than 10%.

RECOMMENDED TREATMENT

- Recommended amount of **P-FFA** (0.05% by weight) is added to the base cement and blended for two (2) minutes
- Add other additives for cement mix
- Add remaining cement and blend for fifteen (15) minutes



CEMENT APPLICATION:

- Load ½ of the base cement in the blender
- Add recommended amount (0.05% by wt) of P-FFA and blend for (2) minutes
- Add other necessary additives.
- Load the rest of base cement and blend for (15) minutes

PROPPANTS:

- To relieve static charge encountered when transferring proppants, add **P-FFA** at a rate of 50 lbs./100,000 lbs. (0.05% by wt.). This can be added at the air can prior to transfer or added by the manufacturer. This has been field tested and proven to be the optimum concentration. There are no known compatibility issues associated with the use of **P-FFA**.
- Blending **P-FFA** can improve typical pneumatic equipment's ability to provide fluid-like flow for bulk materials. Cement particles treated with **P-FFA** additive separate more easily, consequently, surging can be reduced resulting in a smoother cement flow and better density control.

PROPERTIES

- Appearance: White (Powder)
- Specific Gravity: 0.909 g/cm³
- Temperature Range: No Limit

PACKAGING

- **P-ESA** is packaged in 40 x 50 lb. Sacks / Pallet.

SAFETY

- Read the SDS before use.