

POLY-PLUS EHV



Certified to
NSF/ANSI 60

POLY-PLUS EHV acrylic copolymer is an extremely high-molecular-weight, high-charge, polyacrylamide supplied as a dry granular powder. POLY-PLUS EHV acrylic copolymer produces very high viscosity solutions at low dosage rates, particularly in freshwater. It has excellent handling characteristics, mixes easily, and dissolves quickly when added to water-base fluid systems.*

Typical Physical Properties

Physical appearance	White, granular powder
Ionic character	Anionic
Density	0.8 g/cc
Bulk density	50 lb/ft ³ (800 kg/m ³)
pH (1% Solution)	6.0–8.0

Applications

POLY-PLUS EHV acrylic copolymer is ideally suited for applications such as water-well drilling, mineral exploration, and construction applications.

Due to its very high molecular weight, POLY-PLUS EHV additive is also an excellent flocculant for dewatering drilling fluids, waste pits, and sumps.

POLY-PLUS EHV acrylic copolymer functions as a:

Viscosifier: As a viscosifier, the addition of 0.5 to 1.0 lb/bbl of POLY-PLUS EHV acrylic copolymer is a cost-effective way to generate viscosity in fresh- or low-salinity drilling fluids. Its shear-thinning capacity ensures maximum power at the bit under high shear while retaining excellent carrying capacity under low-shear conditions.

Flocculant: As a flowline flocculant, POLY-PLUS EHV acrylic copolymer can also be used for clear-water or low-solids drilling. Adding a 5% solution of POLY-PLUS EHV acrylic copolymer into the flowline or just prior to any mechanical separation greatly enhances the removal of drill solids.

Friction Reducer: Adding POLY-PLUS EHV acrylic copolymer into a drilling fluid helps to reduce turbulent flow, friction, and power losses at points of high shear. Lowering turbulent flow also helps reduce erosion and washouts of fragile geologic structures.

Add slowly and uniformly through a high-shear jet-type mixer. Continue to circulate and agitate the slurry until all materials are dispersed and dissolved.

Recommended application amounts:

Normal consolidated formation:

1.5 to 2.0 lb (0.7 to 0.9 kg) per 100 gal (378.5 L) water (0.6 to 0.8 lb/bbl)

Unconsolidated formation:

2.5 to 3.5 lb (1.1 to 1.6 kg) per 100 gal (378.5 L) water (1.0 to 1.5 lb/bbl)



Advantages

- Provides a clay-free boring fluid that disperses easily with minimal shear
- Soil stabilizer can be used to replace bentonite at a ratio of 1:100 (e.g., one 50-lb (22.7-kg) bag can replace 2.5 tons [1.814.4 tonnes] of bentonite in a typical geo-construction application)
- Produces very-high-viscosity slurries at low dosage rates
- Slurries typically have low gel strength
- Slurry binds loose sand, clay, shale, and gravel, facilitating their removal and preventing dispersal into the slurry
- Reduces fluid loss by penetrating the surrounding soil with a high-viscosity gel fluid, sealing the walls of the excavation site without the use of a conventional filter cake
- Stabilizes reactive formations and is an efficient viscosifier for a clear, solids-free drilling fluid
- Provides high cohesiveness to bind sandy soil and gravel
- Enhances core recovery in continuous wireline coring operations
- Facilitates the removal of drilled soils from augers
- Non-fermenting, without petroleum distillates and easily broken down with household bleach

Cleanup

POLY-PLUS EHV acrylic copolymer can be chemically broken down with liquid bleach in regular household concentration (5% sodium hypochlorite). Use 1 gal (3.8 L) of liquid bleach per 100 gal (378.5 L) of fluid formulated with POLY-PLUS EHV acrylic copolymer. Do not use perfumed liquid bleach or solid calcium hypochlorite.

Toxicity and Handling

When used in accordance with the manufacturer's published instructions, this product is considered non-hazardous. Drilled cuttings exposed to POLY-PLUS EHV acrylic copolymer should be washed with calcium hypochlorite to break down the POLY-PLUS EHV acrylic copolymer before the cuttings can be confined or stored in a sealed container or drum.

Packaging and Storage

POLY-PLUS EHV acrylic copolymer is supplied in 5-gal (18.9-L) buckets.

POLY-PLUS EHV acrylic copolymer should be stored inside under cool, dry conditions. When stored under these conditions, it has a shelf life of at least one year.

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