



TECHNICAL DATA SHEET

XANTHAN GUM – API DRILLING GRADE

XC Polymer | Drilling Fluid Viscosifier

Product Description

Xanthan Gum API Drilling Grade, commonly known as XC Polymer, is a high-performance biopolymer viscosifier developed for water-based drilling fluids. It provides strong low-shear viscosity, efficient cuttings suspension and excellent shear-thinning behavior, helping improve hole cleaning and solids transport during drilling operations.

Technical Specification

Test Item	Specification	Test Result
Appearance	Off-White / Light Yellow Free-Flowing Powder	Conforms
Through 80 Mesh	≥ 95.0%	99.2%
Shearing Ratio	≥ 6.5	7.6
pH (1% Solution)	6.0 – 8.0	6.9
Loss on Drying	≤ 13.0%	10.5%
Ash	≤ 13.0%	< 13.0%
Pyruvic Acid	≥ 1.5%	> 1.5%
Starch, Guar or Derivatives	Absent	Absent

Rheological Performance

Test Medium: 0.28% Xanthan Gum in Seawater Solution

Rheology Test	Specification	Test Result
600 rpm Reading	≥ 76	95
300 rpm Reading	≥ 55	70
200 rpm Reading	≥ 45	60
6 rpm Reading	≥ 18	20
3 rpm Reading	≥ 16	17
Brookfield LV @ 1.5 rpm	≥ 1950	2200

Key Performance



The product develops strong viscosity at low shear rates, supporting cuttings suspension, solids carrying and hole cleaning. Its shear-thinning behavior allows the drilling fluid to maintain strong carrying capacity while remaining easier to circulate under higher shear conditions.

The rheological performance has been evaluated in a seawater system, making the product suitable for drilling applications where saline-water compatibility is required.

Applications

Suitable for use in water-based drilling fluids, freshwater muds, seawater muds, saline drilling systems and low-solids polymer muds.

It can be used in oil & gas drilling, water-well drilling, geothermal drilling, mining and exploration drilling.

Main Functions

Xanthan Gum functions primarily as a viscosifier, rheology modifier and suspending agent. It helps maintain drilled solids in suspension, improves cuttings transport through the annulus and supports efficient hole cleaning.

Recommended Use

The recommended concentration depends on the required rheology, water chemistry, salinity, solids content, temperature and overall drilling-fluid formulation.

Laboratory testing is recommended to determine the optimum dosage for each mud system.

Storage

Store in a cool, dry and well-ventilated area. Keep the packaging tightly closed and protect the product from moisture during storage and handling.

Shelf Life

24 months under recommended storage conditions.