

## Depressant KMN001

### 1. Introduction

Flotation depressant in mining process is a flotation regulator that enhances the hydrophilicity of the mineral surface and destroys or weakens the adsorption of collectors on minerals. Flotation depressants are generally classified into inorganic depressant and organic depressant.

KMN001 is a water-soluble derivative of biopolymer produced by the chemical modification of natural cellulose. Due to its excellent thickening, binding, water retention, and suspension properties, KMN001 is widely used in mining and mineral processing operations. It serves as an environmentally friendly additive that enhances process efficiency and improves the performance of various mining applications, including flotation, pelletizing, and tailings management.

### 2. Physical Properties and Hazards

| Additive | Form             | Specific Gravity | Water Solubility | Melting/Flash Point (°C) | Health Hazard | Physical Hazard | pH (1% Aq. Sln.) |
|----------|------------------|------------------|------------------|--------------------------|---------------|-----------------|------------------|
| KMN001   | Off-white Powder | 1.65-1.85        | Soluble          | -                        | Dust, Eyes    | None            | 9-11             |

### 3. Chemical Properties and Application

KMN001 is an anionic, water-soluble cellulose derivative with excellent thickening, binding, suspension, and water-retention properties. It exhibits good thermal stability, chemical resistance, and performance over a wide pH range, making it suitable for demanding mining environments.

In mineral processing, KMN001 is widely used as a flotation depressant to improve the separation of valuable minerals from gangue materials. It also serves as an effective binder in iron ore pelletizing, enhancing pellet strength and reducing dust generation. Additionally, it helps maintain uniform slurry suspension and supports efficient tailings transport and dust suppression in mining operations.

### 4. Treatment

KMN001 should be gradually dissolved in clean water under continuous agitation to prevent lump formation and mixed until a homogeneous solution is obtained.

Typical solution concentrations range from 0.1% to 2.0%, depending on the application. Laboratory testing and field trials are required to optimize KMN001 concentration according to ore type, particle size distribution, process conditions, and desired performance.

### 5. Packaging

KMN001 is supplied in triple plastic-lining bags with net weight of 55 lbs/sack.

It should be stored in shaded areas with good ventilation. Keep it away from high temperature, humidity and direct sunlight.