



## TECHNICAL DATA SHEET

**Product Name:** Potassium Ferrate (VI)

### 1. Product Identification

**Chemical Name:** Potassium Ferrate (VI)

**Molecular Formula:**  $K_2FeO_4$

**Molecular Weight:** 198.04 g/mol

**CAS No.:** 39469-86-8

**EINECS / EC Code:** 254-051-6

**Appearance:** Dark purple to black crystalline powder

### 2. Typical Specifications

Specification		Requirement
Content of $K_2FeO_4$	$\geq\%$	40.0
Water insoluble substances	$\leq\%$	0.05
Chloride	$\leq\%$	0.03
Iron	$\leq\%$	0.003
Water	$\leq\%$	0.2
Heavy metal	$\leq\%$	0.003

### 3. Production Method

Potassium ferrate (VI) is generally produced by the oxidation of iron salts with strong oxidizing agents (e.g., chlorine or hypochlorite) in alkaline solution, followed by precipitation with potassium hydroxide.

### 4. Raw Materials

Iron salts ( $Fe^{3+}$  source)

Potassium hydroxide (KOH)

Oxidizing agents ( $Cl_2$ , NaOCl, etc.)

### 5. Working Principle

Potassium ferrate (VI) is a powerful oxidizing agent. In aqueous solution, it oxidizes organic and inorganic substances while being reduced to  $Fe(OH)_3$ , which can further act as a coagulant in water treatment.

## 6. Applications

**Water Treatment:** Disinfection, deodorization, heavy metal removal, oxidation of pollutants

**Wastewater Treatment:** Oxidation of cyanides, phenols, sulfides, and ammonia compounds

**Medical & Pharmaceutical:** Oxidizing reagent in synthesis and sterilization processes

**Analytical Chemistry:** Strong oxidant for laboratory applications

**Electronics:** Oxidizing agent in specialized etching or cleaning processes

## 7. Packaging & Storage

**Packaging:** 25 kg fiber drums or customized packaging available

**Storage:** Store in a cool, dry, and well-ventilated warehouse. Keep away from heat, moisture, and reducing agents.

**Shelf Life:** 12 months under recommended storage conditions

## 8. Safety & Handling

Strong oxidizer — avoid contact with combustible materials

Use personal protective equipment (gloves, goggles, respirator)

In case of contact, rinse thoroughly with water

Transport according to regulations for oxidizing substances