



**中国石油**

## EP-0 Instruction

### **Background**

EP-O Drag Reduction Agent (DRA) is part of Pipeline Scientific and Technical Center of PetroChina Pipeline Company Specialty Products' range of innovative and technologically superior chemical additives. As part of the portfolio, EP-O DRA provides the answer to pipelines with very specific flow dynamic needs.

### **Characteristics**

EP-O DRA has been designed for large volume customers at the lower end of the performance curve. The nature of the long-chain polymer provides uplift earlier on, specifically in tune with pipeline operators' needs. It can provide more than 80% drag reduction depending on pipeline or crude conditions.

EP-O DRA is an aqueous suspension with higher polymer content. Like our other EP series DRA, it dissolves into flowing product without coating pipeline walls. It increases throughput while reducing internal corrosion rates.

The polymer technology used by Pipeline Scientific and Technical Center of PetroChina Pipeline Company allows greater amounts of active polymer to be deployed in a fixed amount of product while improving the dissolution dynamics. The polymer of choice shows excellent hydrocarbon affinity, and is able to attain elevated levels of drag reduction under varied operating scenarios. The nature of the polymer provides some additional buffering from shear affects, but will shear degrade in places where abnormally high shear forces are exerted, eliminating concerns to downstream processing.

### **Benefits**

#### **Great performance**

- High achievable drag reduction of more than 80% depending on pipeline and crude conditions
- Provides additional buffering from shear effects
- Increases flow rates while maintaining current pipeline pressures
- Maintains flow while reducing pipeline pressures

#### **Superior Technology**

- Improves pipeline capacity without capital investment
- Less polymer required to achieve a given performance
- Lower injection rates than traditional drag reducers
- Faster dissolution rates than traditional drag reducers
- Reduces temperature loss

### **Handling**

EP-O DRA is easy to handle, store and clean up. It is environmentally friendly and non-flammable. It flows easily and does not require nitrogen pressurized storage tanks.



# EP-O Product Properties

|  |  |
|--|--|
| <b>General</b>   |  |
| Designed for use on  | Petroleum Crude Oil & Refined Products                                   |
| DRA type   | Yellow slurry  |
| <b>Performance</b>   |  |
| Maximum drag reduction   | More than 80% depending on pipeline / crude conditions                   |
| Typical concentration  | 5 to 50 ppm  |
| <b>Typical Performance</b>                                       |  |
| Color  | Yellow   |
| Density  | 0.80-0.98  |
| Open Flash Point   | > 102  |
| Viscosity  | < 6500   |
| PH   | 5.0-9.0  |
| Ash Content  | < 0.5%   |
| <b>Handling</b>  |  |
| Operating Range  | 15 -70   |
| Product Stability  | Stable suspension<br>Intermittent agitation recommended                  |
| <b>Injection Equipment</b>                                       |  |
| Pumps  | Various designs available for different injection range and environments |
| Flow Meter   | Mass   |
| <b>Safety And Environmental (See Material Safety Data Sheet)</b> |  |
| Safety   | Non-hazardous, non-flammable   |
| Health   | Low toxicity Conventional protection equipment                           |
| Environmental  | Very low aquatic toxicity  |

Address : Scientific and Technical Center of PetroChina Pipeline Company

Jingguang Road No.51 Langfang City, Hebei Province

Tel: 0316-2174853, 2075157, 2174952

Fax: 0316-2174853, 2075157, 2174952

e-mail : [gpli@petrochina.com.cn](mailto:gpli@petrochina.com.cn), [jlzhang@petrochina.com.cn](mailto:jlzhang@petrochina.com.cn)