PPD-1818C Description

PPD-1818C is developed specially to improve the flowability of the crude oil;
And is specially used for the collection and transportation of the long-distance pipe line and pour point & viscosity reduction of the crude oil as well as the oil exploration.

Since the high paraffin content of the crude oil will cause the crystallization happens during the process of transport and store, PPD-1818C is developed to avoid such situation. The crude oil has certain quantity of paraffin whose thickness、structure and molecular weight closely relate with oil sources.

In the process of oil exploitation and transport, those paraffin will get crystallized due to cooling and deposit on the surface of the underground equipment、flown line、separator and the storage tank. With the continuous deposition of the paraffin, the flow area will be decreased and even further get the channel blocked and also oil producing efficiency reduced.

When transport the crude oil in the channel, it'll employ the Standing by Heating Process to get the crude oil heated for pour point depressing, which will ensure the flowability of the crude oil. The fuel energy consumption of the crude oil account for around 30% of the whole oil transport cost, and there happens the volatilization loss of the light oil in the crude oil. So the PPD-1818C (Pour Point Depressor) has a vital role to get crude oil transported under normal temperature and reduce the energy consumption.

To add the strong polarity group in the Ethylene-Vinyl acetate system and produce the PPD-1818C for crude oil with the High-pressure multivariate polymerization process for production'. The PPD-1818C will the Eutectic adsorption with the paraffin and prevent the paraffin crystal from getting bigger, and decrease the pour point and viscosity, also improve the crude oil's flowability under low temperature. With certain quantity of PPD-1818C adding into the crude oil, it'll improve its flowability under low temperature. The temperature under which the crude oil will present to be Newtonian fluid could be decreased 5℃~10℃, and the pour point will get decreased 10~20℃, also the yield value of stress and apparent viscosity under low temperature will decrease more than 80%. That's really an efficient channel to make the 'Collection and Transportation at normal temperature' come true. The PPD-1818C for crude oil has very good improvement performance to several kinds of domestic paraffin-contained crude oil.

Please refer to below test results from some big oil fields:

Crude Oil from Refinery	Freezing point /℃	Dosage of PPD1818C /PPM	Processing Temperature /℃	Final cooling temperature /℃	Pour Point after PPD1818C Added/℃	Pour Point decreased /℃	Viscosity Reduction Rate/ %
Daqing Crude Oil	32.5	400	60	20	16	16.5	98.5
Shengli Crude Oil	33	400	60	20	8	25	99.5
Zhongyuan Crude Oil	32	400	65	25	20	12	99.9
Nanyang Crude Oil	34	400	65	25	21	13	95
Tuha Crude Oil	15	400	60	10	-17	32	99.9
Qinghai Crude Oil	32.5	400	70	20	12.5	20	97
Inner Mongolia Crude Oil	26	400	65	20	-2.5	28.5	99.9
Jianghan Crude Oil	28	280	60	20	2.5	25.5	99
Sudan Nile Blend	33	200	85	30	21	12	>80

Per the test results from up-mentioned tests, the PPD-1818C has very good reduction performance to the pour point and viscosity of the crude oil either from home or abroad. It can be deployed safely and effectively on the paraffin-contained crude oil exploration and transport process.

PPD-1818C is added into the paraffin-contained crude oil and is heated up to the temperature near wax precipitation point or higher, during the cooling process; the PPD-1818C molecular could have eutectic and adsorption reaction with the paraffin precipitated from the crude oil. The polarity part of the molecular structure can get the paraffin of the crude oil separated out and effectively restrain the space network structure of paraffin precipitated from the crude oil. Then to reach the goal of reducing pour point、 low temperature viscosity 、 the yield value and improving the low temperature flowability of the crude oil.

This standard is developed according to GB/T 1.1-2000《Standardization Working Guide 1st Part: Framework of Standard and Compiling Rules》and GB/T 1.2-2002 《Standardization Working Guide 2nd Part: Determination Methods to the Normative Technological Element of the Standard》.

This standard is based on the domestic and international advanced product quality indicators and considering the different process characteristic of the PPD-1818C and specific feature. The technologic indicator is designed by the demand of the customer. To ensure the product quality and meet the demand of customer, the standard hereby is formulated.

PPD-1818C the product should comply with the regulation in table 1

Technological requirement of PPD-1818C

Technological Indicator:

Items	Indicator	Test Standard
Appearance	Nature or light yellow glutinous liquid	Visual Test
（50℃），g/cm³ Density	800~950	GB/T1884-1992
Pour Point ℃ ≤	40	GB/T510-1991
（50℃），mm²/s≤ inematic viscosity	800	GB/T265-1988

Usage:

1. The effect of this product not only depends on the performance of itself but also closely relates with the crude oil property. Please test in the lab with small quantity and determine the proper product no. and optimum dosage before large-scale usage.

2. This product is a high efficiency liquid developed based on the solid PPD-1818C, it can be used by injecting into the crude oil pipe with metering pump or just be diluted by diesel oil and later be injected into the oil pipe according to certain volume.

3. To make sure the product can have best performance in the crude oil, it is recommended to be added in the crude oil at the temperature 20℃ higher than its normal pour point, when the paraffin hasn't been precipitated out.