

Second Laureate Fundamental Research



- **Project title:** Formulation of Asphaltene Inhibitor for oil reservoirs
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- **Collaboration Organization:** Petroleum University of Technology- National Iranian Oil Co.

Abstract:

Asphaltenes are heavy hydrocarbon depositions which precipitate due to change in thermodynamic equilibrium in petroleum reservoir during oil production. It can cause a serious problem by plugging the formation, wellbore and production facilities, thus reducing well performance and oil recovery.

Asphaltene inhibitors are injected with different compositions and concentrations to reduce and prevent Asphaltene deposition in the reservoir.

The objective of this work was to formulate an asphaltene inhibitor which is suitable for Iranian oil reservoirs. Hence, IR95 inhibitor is obtained. This inhibitor is able to reduce the asphaltene precipitation more than %50 for a wide range of oils (different content of asphaltene from 0.3 to %24) with low concentration. The applicability and efficiency tests for different crude oils were conducted at Tehran Petroleum research center (Petroleum University of Technology). A reduction of Asphaltene was observed for all for type of crude oils.

Specific results of the Project

- Formulation of native asphaltene inhibitor (IR95)
- Competitive with international products with regard to performance
- Improvement of daily well performance
- Enhancement of well life and production time
- Cost reduction due to well workover activities
- Applicable for every oil well based on its completion
- It can be injected continuously or in batch form
- No need for importing similar products

