



PRODUCT DATA SHEET

NanoDissolve® Reliquefaction Solvent

General Description

NanoDissolve® is a revolutionary product combining several proprietary solubilisation chemistries that are now “Powered by Nano®”. Smaller than an atom, nano particle technology is a revolutionary approach to creating substances from particles engineered at the molecular level. Due to their size, the nano-engineered reliquefaction particles drive the proprietary blend of liquefaction chemistries deep into even the toughest deposits, providing superior dissolving and reliquefaction capabilities. Now deposits can be addressed even with minimal flow or agitation.

Features and Benefits

- Great alternative to toxic chemistries like Xylene
- Increased oil and gas production
- Reduces oil viscosity
- Does not require heating
- Does not require removal prior to refining
- Reduces under deposit corrosion
- Rapid line clean up
- Reduces pumping fees
- Prevents redeposition
- High flashpoint – can be heated
- Low evaporation properties

Physical Properties

Form:	Liquid	Water Solubility:	Not Soluble
Color:	Clear yellow	Hydrocarbon Solubility:	Soluble
Odor:	Faint hydrocarbon	Freeze Point:	-18°C (0°F)
Flash Point:	>95°C (203°F)	Specific Gravity:	0.78 ± 0.04

Application

The proprietary blend of solubilisation chemistries allow for a wide range of applications within the oil industry.

910, 640 – 5th Avenue SW | Calgary, Ab. T2P 3G4 • Tel: 403-237-8900 | Fax: 403-265-6199

Recommendations given in this bulletin are based on tests believed to be reliable. However, the use of the information is beyond the control of OptiFrac Chemical Services, and no guarantee, expressed or implied is made to the results obtained if not used in accordance with directions or established safe practice. The buyer must assume all responsibility, including injury or damage from the misuse of the product as such, or in combination with other materials. This bulletin is not to be taken as a license to operate under or recommendation to infringe any patent.



PRODUCT DATA SHEET

Hydrocarbon Reliquefaction

NanoDissolve[®] will reliquefy or remediate petroleum (hydrocarbon) based sludges, sediments, and solids. These compounds include distillate fuel oils, residual oils, lubricants, and many other products resulting from the distillation of crude oil. The hydrocarbon chains are reliquefied, the viscosity reduced (up to 80% or more), and the API Gravity increased (up to 3 times) upon application of **NanoDissolve**[®]. The oil is not harmed and recovery rates of 85% (of the available hydrocarbons) or more are normally achieved.

Paraffin Reliquefaction

NanoDissolve[®] is an efficient means for addressing a number of paraffin deposits, whether downhole, in flow lines, battery tanks, or any other location. The blend of solubilisation chemistries allow for the saturated, unbranched, acyclic hydrocarbons (basis for the paraffin) to be broken down and short-chain hydrocarbons substituted. The nano particles allow penetration into even severely dehydrated paraffin deposits. Once reliquefied, the paraffin will maintain its state, even down to very low temperatures, preventing redeposition.

Asphaltene Reliquefaction

As with paraffin, **NanoDissolve**[®] is an efficient solution for addressing asphaltene deposits, particularly in flow lines or various deposits. **NanoDissolve**[®] replaces the short to mid length hydrocarbon chains that have volatilized off during the deposition process. These replaced hydrocarbon chains are now non-volatile, preventing redeposition of the asphaltene. The nano particles, again, provide superior product penetration and therefore performance.

Shipping and Handling

Aspiration hazard if swallowed. Inhalation of mist may produce severe irritation of the respiratory tract. Do not induce vomiting if swallowed. Safety glasses, gloves and coveralls, as a minimum, are recommended when handling. Keep container closed when not in use. Store **NanoDissolve**[®] in a dry and cool area. Refer to the Material Safety Data Sheet (MSDS) for other safety and handling information.

Availability

NanoDissolve[®] is shipped in 208 litre drums. Bulk quantities are available upon request.

910, 640 – 5th Avenue SW | Calgary, Ab. T2P 3G4 • Tel: 403-237-8900 | Fax: 403-265-6199

Recommendations given in this bulletin are based on tests believed to be reliable. However, the use of the information is beyond the control of OptiFrac Chemical Services, and no guarantee, expressed or implied is made to the results obtained if not used in accordance with directions or established safe practice. The buyer must assume all responsibility, including injury or damage from the misuse of the product as such, or in combination with other materials. This bulletin is not to be taken as a license to operate under or recommendation to infringe any patent.