

# SAFE-SOLV E

SAFE-SOLV\* E additive is a blend of non-aromatic hydrocarbon and natural terpene solvents designed to give optimum grease solvency properties without using hazardous chemicals.

SAFE-SOLV E additive is particularly effective at removing pipe dope and oil or synthetic-base mud residues from downhole surfaces, either as part of a full wash train, or separately as part of a pipe pickling procedure prior to gravel packing. SAFE-SOLV E additive is also effective in dissolving waxes and asphaltenes and contains no aromatic compounds, such as benzene, ethylbenzene, toluene or xylene. Unlike many commercial solvents, SAFE-SOLV E additive has a pleasant, citrus-like odor.

### Typical Physical Properties

|                           |                             |
|---------------------------|-----------------------------|
| Physical appearance ..... | Clear liquid                |
| Odor .....                | Pleasant, citrus-like smell |
| Specific gravity .....    | 0.81 @ 68°F (20°C)          |
| Flash point .....         | 144°F (62°C)                |

### Applications

SAFE-SOLV E additive is designed specifically for downhole use during well clean-up or pipe pickling operations. It may also be used to remove waxes and asphaltenes from production tubulars.

SAFE-SOLV E additive is commonly used as a concentrated pill (or slug), but may also be used as a dispersion in water or brine as part of a wash train.

For mud displacement applications, SAFE-SOLV E additive should be used in conjunction with a wash containing a surfactant, such as SAFE-SURF\*E, in order to ensure water-wet tubulars.

SAFE-SOLV E additive may also be used in conjunction with a surfactant in a transition pill for SBM displacements. Contact Technical Services for more information.

### Advantages

- SAFE-SOLV E additive is designed to soften, dissolve and suspend hydrocarbon deposits which could interfere with production.
- Contains no aromatic or chlorinated hydrocarbons
- Does not contain alkyl-phenol ethoxylates
- Immiscible with brine; distinct interface
- SAFE-SOLV E additive is readily biodegradable in the marine environment.
- Can be used to remove waxes and asphaltenes from production tubulars
- Has pleasant, citrus-like odor
- Small volumes normally required; can be pumped from cement unit or slug pit

### Limitations

- Although combustible, SAFE-SOLV E additive is not considered hazardous for U.S. ground transport when shipped in non-bulk (<119 gal) containers. When shipped in bulk containers in the U.S., the appropriate warning labels are required (See Section 14 of the MSDS.).
- May interact with elastomer materials on prolonged exposure. Avoid storing or shipping in rubber-lined tanks.

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**Toxicity and Handling**

Bioassay information is available upon request.

Handle as an industrial chemical, wearing protective equipment and observing the precautions as described in the Material Safety Data Sheet (MSDS).

**Packaging and Storage**

SAFE-SOLV E additive is packaged in 208-L drums. 1-m<sup>3</sup> IBCs may also be available upon request.

Store in dry, well-ventilated area. Keep container closed. Keep away from heat, sparks and flames. Store away from incompatibles. Follow safe warehousing practices regarding palletizing, banding, shrink-wrapping and/or stacking.

No claim of personal safety is intended nor implied by the use of the name SAFE in this product. Personnel handling this material should read and follow all safety and handling procedures set forth on the Material Safety Data Sheet.



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