

# Paratene™ NTWF

“Non Toxic Water foamer”

## Description

Paratene™ NTWF is a blend of non-toxic, nonionic surfactants designed to produce foam in water and brine. Paratene™ NTWF composition will provide a foamed water solution which meets or exceeds the toxicity requirements given by the Energy and Utility Board of Alberta.

## Features and Advantages

- ❑ Non-toxic
- ❑ Nonionic
- ❑ Non-flammable
- ❑ Good foam
- ❑ Very low surface tension

## Typical Physical Properties

|                  |                 |
|------------------|-----------------|
| Appearance       | Clear liquid    |
| Specific Gravity | 1.01 at 15.5 °C |
| Flash Point      | None            |
| pH               | 7.5 – 8         |
| Freeze Point     | 0°C             |
| Ionic Character  | Nonionic        |

## Methods of Application

Paratene™ NTWF can be added to drilling fluids or fracturing fluids at concentrations up to 1%. The table below gives the foam characteristics generated by Paratene™ NTWF.

### Tested In Distilled Water

| % NTWF | Foam Quality (%) | Half Life (s) |
|--------|------------------|---------------|
| 0.1    | 73               | 25            |
| 0.2    | 75               | 25            |
| 0.4    | 79               | 72            |
| 0.6    | 83               | 120           |
| 1.0    | 85               | 160           |

### Tested in 1% CaCl<sub>2</sub>

|     |    |     |
|-----|----|-----|
| 0.6 | 81 | 90  |
| 1.0 | 84 | 140 |

The Microtox™ test values were measured for the solutions in distilled water. A 1% solution and all dilutions below 1% were measured to have a Microtox™ value of greater than 910L/m<sup>3</sup>.

The solutions should all be tested for efficacy and toxicity when blended with other additives.

In applications where an extended half life is required, Woodrising can supply a foam stabilizing product “Paratene™ Foam Stabilizer” that also measured a Microtox™ test value of greater than 910 L/m<sup>3</sup>.

Consult with the Woodrising laboratory to determine the best application for your problem.

## Safety and Handling

Paratene™ NTWF is nontoxic and non hazardous.

### WOODRISING RESOURCES LTD.

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