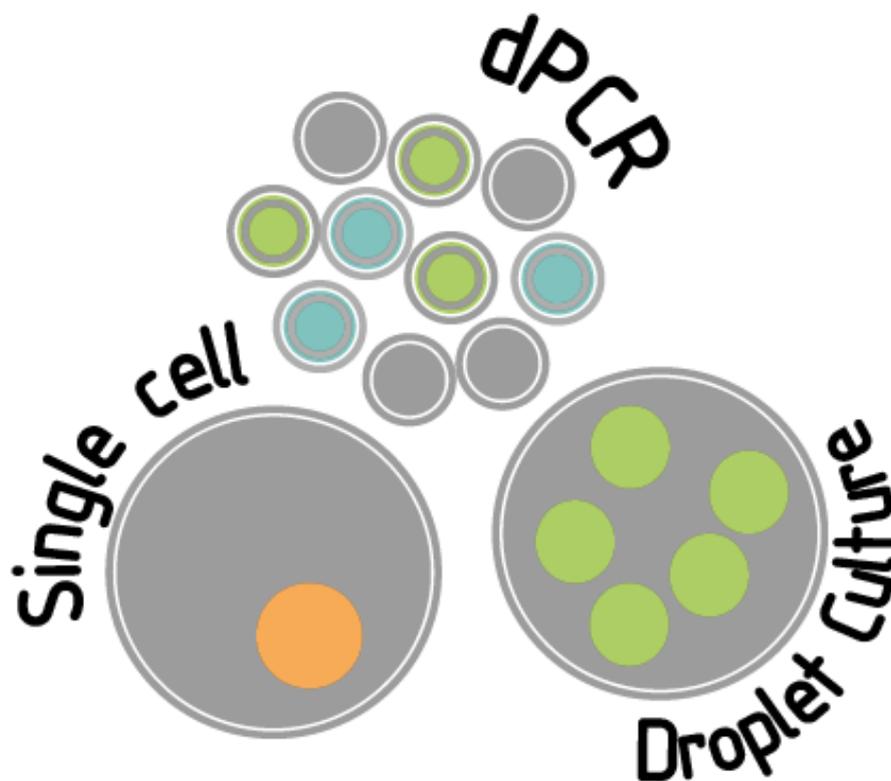


dSURF Product Data Sheet



| | |
|---|-------------|
| dSURF 1 x 4mL of 3M™ Novec™ 7500 Engineered Fluid with 2% dSURF | DR-RE-SU-04 |
| dSURF 3 x 4mL of 3M™ Novec™ 7500 Engineered Fluid with 2% dSURF | DR-RE-SU-12 |
| dSURF 30mL of 3M™ Novec™ 7500 Engineered Fluid with 2% dSURF | DR-RE-SU-30 |
| dOIL 120mL 3M™ Novec™ 7500 Engineered Fluid | DR-RE-SU-P1 |

Table of Contents

| | |
|-----------------------------|---|
| 1. Overview..... | 3 |
| 2. Benefits | 3 |
| 3. How to use dSURF..... | 4 |
| 4. Contact information..... | 4 |



Overview

Droplet microfluidics has emerged as a powerful tool for high-throughput biomolecular analysis. A water-in-oil droplet is used as a picoliter reactor in which a single object such as a cell, a DNA strand, a protein/peptide can be encapsulated with various reagents. In 2015, the McCarroll lab* at Harvard opened a new path with the Drop-seq method for studying RNA expression genome-wide in thousands of cells in a run. Today, several dPCR systems are commercially available. Fluorinated oils have shown several advantages compared to other carrier fluids such as mineral oils. Their low viscosity allows for easy handling in microfluidic systems without need of high-pressure pumps. Also, they show a better PDMS compatibility due to minimum swelling. They are also more adapted to biochemical experiments due to low organic compound transfer drop-to-drop and they have shown better biocompatibility in long-term in droplet cell culture experiments. To maintain stable droplets in fluorinated oil, the use of a fluorosurfactant is mandatory.



dSURF is a new generation of fluorosurfactant providing highly reliable droplet production and stability even under strong conditions such as dPCR temperature cycles or long-term cell culture experiments. dSURF has been validated with several dyes showing limited diffusion outside the droplets. Its biocompatibility has been qualified through droplet bacteria, yeast, and mammalian cell growth.

* <http://mccarrollab.org/dropseq/>



Benefits

- ▶ Highly reliable droplet formation and production from 20µm to 100µm diameter. Compatible with [EZ Drop](#) chip.
- ▶ FAM™, HEX™, VIC® and EvaGreen® based dPCR validated.
- ▶ Suited for long-term cell culture experiments
- ▶ High purity

How to use dSURF

dSURF comes diluted at 2% in 3M™ Novec™ 7500 oil. Depending on the application, dSURF can be used directly at 2% concentration. However, for other applications this concentration can be reduced to 0,5% or 1%. Fluigent provides pure fluorinated Novec™ 7500 oil (dOIL, part number: DR-RE-SU-P1) for such dilutions. According to our applications notes and customer's procedures, Fluigent recommends using the 2% concentration for dPCR experiments and down to 1% concentration for cell culture experiments. Each experiment being different, it is recommended to perform preliminary testing to determine the best concentration.

For droplet generation Fluigent proposes a [Droplet Starter Pack](#) including Flow EZ pressure pumps, P-CAP reservoirs and PDMS chips for easy droplet generation.

Contact information

Fluigent has worldwide exclusivity for selling dSURF.

www.fluigent.com/dSURF

contact@fluigent.com

