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ISO 9001:2015 · ISO 14001:2015 · ISO 22000:2018

Technical Data Sheet

ZEELCHEM™ DF — Silicone Defoamer

TECHNICAL DATA SHEET

DOCUMENT NO.	REVISION	ISSUE DATE	PRODUCT TYPE
ZP/TDS/DF/01	01	12-11-2026	Silicone antifoam emulsion

APPEARANCE	IONIC NATURE	PH (AS SUCH, 25 °C)
Thick, milky white liquid emulsion	Non-ionic	6.0 – 8.0

SPECIFIC GRAVITY (25 °C)	VISCOSITY (BROOKFIELD, 25 °C)	NON-VOLATILE MATTER (105 °C)
0.98 – 1.02	1,500 – 4,000 cP	20 – 24 %

1 Product description

ZEELCHEM™ DF is a high-efficiency, water-dilutable silicone defoamer based on polydimethylsiloxane (PDMS) and hydrophobic silica, supplied as a thick, milky white liquid emulsion. It gives fast foam knockdown and long-lasting foam suppression in water-based industrial systems over a wide range of temperature and pH.

Product type: Silicone antifoam emulsion (polydimethylsiloxane based) · **Brand:** ZEELCHEM™ · **Manufacturer:** ZEEL PRODUCT, Vadodara, India

2 Typical properties

Property	Typical value
Appearance	Thick, milky white liquid emulsion
Chemical nature	Polydimethylsiloxane emulsion with hydrophobic silica
Ionic nature	Non-ionic
Active silicone content	20 ± 2 % (standard grade; 10 % and 30 % grades on request)
pH (as such, 25 °C)	6.0 – 8.0
Specific gravity (25 °C)	0.98 – 1.02
Viscosity (Brookfield, 25 °C)	1,500 – 4,000 cP
Non-volatile matter (105 °C)	20 – 24 %
Solubility	Dispersible in cold / room-temperature water
Flash point	Not applicable (water based)

Typical values, not a specification. Refer to the batch Certificate of Analysis.

3 Features & benefits

- Very fast foam knockdown and long persistence
- Effective at low dosage (typically 10–200 ppm)
- Stable over wide pH and temperature range
- Non-ionic — compatible with most process chemicals
- Easily diluted with water for pump or spray dosing

4 Applications

- Effluent & sewage treatment plants (ETP / STP / CETP)
- Textile wet processing — dyeing, scouring, bleaching, washing
- Detergent, chemical and pharmaceutical manufacturing
- Distillery fermentation and spent-wash treatment
- Agrochemical formulations
- Cooling water and general industrial process water

5 Recommended starting dosage

Application	Starting dosage
ETP / STP	10 – 100 ppm on flow
Textile dyeing	0.1 – 0.5 g/L of bath
Chemical / detergent processing	0.01 – 0.1 % on batch
Distillery & fermentation	10 – 200 ppm, on demand

Optimum dosage depends on the system and should be established by trial. Start at the lower level and increase until foam is controlled.

6 Method of application

- Stir or roll the container gently before use.
- Use as supplied, or pre-dilute by adding the product slowly to clean cold / room-temperature water under stirring (typically 1:5 to 1:20). Use dilutions within 24 hours.
- Dose continuously at, or just before, the point of foam generation using a metering pump, spray nozzle or batch addition.

7 Packing

50 kg HDPE carboy · 200 kg HDPE drum · 1,000 kg IBC (on request).

8 Storage & shelf life

Store in tightly closed original containers in a cool, shaded place between 5 °C and 35 °C. Protect from frost and direct sunlight. Shelf life: 12 months from date of manufacture in unopened packs. Stir before use.

9 Handling & safety

Wear gloves and safety goggles. Spills make floors slippery — absorb with inert material and clean promptly. Refer to the Safety Data Sheet (SDS) before use.

The information in this data sheet is based on our present knowledge and is given in good faith for reference. It does not constitute a warranty or specification. Users should test the product to establish suitability for their own process. ZEELCHEM™ is a brand of ZEEL PRODUCT.

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