



PRODUCT DATA SHEET

ORCA/DEEPA Enzyme Acid Systems

Enzyme Generated Acid Technology

ORCA and DEEPA are patented technologies used for the in-situ production of organic acid with a proven track record for the clean-up and stimulation of oil and gas wells all over the world. Through unique enzyme reactions, organic acid is produced down hole after the fluid has been displaced into the formation and heated. This represents a fluid that is non-reactive on surface and eliminates many of the compatibility, corrosion, safety, and environmental concerns normally associated with typical fast acting mineral acids.

Physical Properties of Acidgen FG2 Component:

Appearance:	Colorless liquid	Cold Stability:	-32°C (-26°F)
Odor:	Sweet smelling	Solubility:	100%
Boiling Point:	>100°C (210°F)	Specific Gravity:	1.20
Flash Point:	>100°C (210°F)	Persistence:	100% Biodegradable

Application Data:

ORCA for OBM and ORCA for WBM are highly effective, dual attack, single treatment filter cake cleanup solutions for oil-based and water-based drilling fluid filter cakes respectively. ORCA uniformly removes OBM or WBM filter cake damage to optimize well productivity, on wells when first drilled, or as remedial treatments for wells already on production.

DEEPA provides highly effective, uniform deep matrix acidizing of the formation. In-situ generation of organic acid permits acidizing treatments with excellent zonal coverage while completely avoiding the problems associated with conventional acidizing treatments.

DEEPA technology has a number of valuable oilfield applications including:

- deep matrix acidizing of carbonate formations
- deep matrix acidizing of sandstone formations containing some carbonate e.g. carbonate cementation or secondary mineralization
- deep matrix acidizing of formations that have a build-up of carbonate scale
- stimulation of natural fracture networks in carbonate formations

Shipping and Handling:

ORCA and DEEPA have a storage life of better than one year. Keep container closed when not in use. As with all chemical products and materials, take care as to where you store them. Safety glasses are suggested for use when handling. No special gloves or protective equipment are required when handling this product.

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