



Crown

Drill-Shield™

ACIDIZING ADDITIVE FOR HYDRAULIC FRACTURING
PROTECTS YOUR EQUIPMENT AND THE ENVIRONMENT



Description

Crown Drill-Shield™ is a high-performance, non-toxic hydrochloric acid corrosion inhibitor custom formulated to be a safer and more environmentally friendly alternative for use in the oil and gas industry.

Advantages & Benefits

- **Effective High Temperature Inhibition**
 - Proven protection in HCl and organic acid blends up to 300°F (149°C)
 - Compatible with intensifiers
 - Effective across a wide range of steel alloys including N-80, P110 and 304SS
- **Cost Effective and Reliable**
 - Provides outstanding protection at concentrations as low as 0.2%, depending on acid type, strength and down-hole temperature
 - Crown offers a single product solution for protection up to 275°F (149°C) Intensifiers available for higher temperature requirements
 - Produces extremely stable dispersion in acid solutions for maximum effectiveness
 - Product remains stable, even at low temperatures, with no mixing required

Product Stewardship

- **Responsible Chemistry**
 - 100% all-organic formulation
 - Non-toxic for reduced environmental impact

Environmentally Conscious

- **Drill-Shield™ Contains:**
 - NO propargyl alcohol or derivatives (toxic, readily absorbed into skin)
 - NO phenol or alkylphenol surfactants (toxic, environmentally hazardous)
 - NO quinoline (non-biodegradable, possible toxin, carcinogen, mutagen)
 - NO heavy metal salts, arsenic or antimony (poisonous)
 - NO heavy aromatics (aquatic biotoxin, possible carcinogen)

Crown Technology, Inc.

Crown Technology, Inc. has been the industry leader in acid inhibitor technology and steel corrosion products since 1946



Performance Data

Temperature	Drill-Shield™ Conc. (% v/v)	Drill-Shield™ Concentration (gals per thousand)	Crown DSI Intensifier (gals per thousand)	Corrosion Rate (lb/ft ²)
225°F	0.2%	2	-	0.023
	1%	10	-	0.017
250°F	0.5%	5	-	0.051
	1%	10	-	0.039
	2%	20	-	0.024
275°F	1%	10	-	0.086
	1%	10	5	0.039
	2%	20	-	0.076
	2%	20	5	0.026
300°F	3%	30	-	0.056
	2%	20	-	0.139
	2%	20	5	0.112
	2%	20	15	0.067
	2%	20	25	0.038
	3%	30	-	0.083
	3%	30	5	0.073

Test Conditions

- All tests performed in 15% w/v HCl for 6 hours @ 150 psi
- Concentrations based on gallons of additive per 1000 gallons of acid mix
- Test specimens prepared from **actual** N-80 production pipe:
C(0.42%), Mn(0.96%), Mo(0.18%), Cr(1.06%), Cu(0.17%), P(0.10%), Si(0.27%), Ni(0.12%)

Typical Properties

- Appearance Clear, yellow/orange liquid
- Odor Mild
- Solubility in Water Miscible
- Specific Gravity 0.86 – 0.94
- Freeze Point -58°F (-50°C)
- Flash point 68°F (20°C)
- Packaging Drums/Totes/Bulk

Usage

- Please contact your Crown Technical representative for recommended concentration ranges specific to your application.

Call Us Today 1-800-432-0045


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