

Oilfield Chemical Additives Supplier for

- Drilling
- Completion
- Production
- Stimulation

Acid corrosion inhibitor ***UZ CI-180V***



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Corrosion inhibitors are used in acid treatments, e.g. matrix acidizing, acid fracturing, or in sand control treatments. Highly acidic fluids leads to severe corrosion but Youzhu provides a portfolio of corrosion inhibitors used as parts of formulations that protect metal components in the wellbore or in coiled tubing from the corrosive nature of the fluid.



Technical Index

Appearance	Light yellow to brown liquid
Density, g/cm ³	1.0-1.2
pH (1%)	2.0-6.0
Solubility	Soluble in water and acid
Innic Charge	Cationic
Flash Point	Beyond 60°C

Product introduction

HCl of any strength has an undesirable reaction on steel. The amount of damage will depend upon contact time, acid strength, and temperature conditions. Acid corrosion inhibitor can provide effective protection for steel in HCL. Common acid Corrosion Inhibitors are not compatible with visco-elastic surfactants. UZ CI-180V is specially developed for visco-elastic surfactant diverting acid system. UZ CI-180V is well compatible with most viscoelastic surfactants.

Usage: GALLONS UZ CI-180V PER 1000 GALLONS ACID

Temp	15%HCL	20%HCL	28%HCL
< 200°F	4	6	10
201-225°F	8	10	10
226-250°F	15	15	15
251-300°F	20	20	25
300-350°F	25	25	30

Concentration is dependent on acid type, strength, bottom-hole temperature, contact time, and additional additives.

15% DIVERTING ACID					
Fluid NO.		1	2	3	4
Temperature (F)		194F	240F	280F	300F
Acid Concentration		15%	15%	15%	15%
Additive Code	Description	GPT/PPT	GPT/PPT	GPT/PPT	GPT/PP T
CII-400	Corrosion Inhibitor Intensifier	0	0	40	40
BA2-01VES	Corrosion Inhibitor	8	10	15	18
IC-150	Iron Chelating Agent	20	20	20	20
HS-40	H ₂ S Scavenger	5	5	5	5
VES2-11	Diverting Surfactant	40	60	75	80
Corrosion rate for hrs (lb/ft ²)		0.0121	0.0117	0.0121	0.0248
Pitting Index _{≤1}		0	0	0	0

20% DIVERTING ACID					
Fluid NO.		1	2	3	4
Temperature (F)		194F	240F	280F	300F
Acid Concentration		20%	20%	20%	20%
Additive Code	Description	GPT/PPT	GPT/PPT	GPT/PPT	GPT/PPT
CII-400	Corrosion Inhibitor Intensifier	0	0	40	40
BA2-01VES	Corrosion Inhibitor	8	10	15	18
IC-150	Iron Chelating Agent	20	20	20	20
HS-40	H ₂ S Scavenger	5	5	5	5
VES2-11	Diverting Surfactant	40	60	75	80
Corrosion rate for hrs (lb/ft ²)		0.0155	0.0141	0.0185	0.0382
Pitting Index _{≤1}		0	0	0	0

Features and Benefits ↓↑

1. Excellent high-temperature metal corrosion protection
2. Provide corrosion protection in all HCL and HCL-HF blends up to 330F/165°C
3. Contains no heavy metal salts, and has a high flash point
4. Reduces acid corrosion rates on common oilfield tubulars, including coiled tubing
5. Improves design flexibility because it works in virtually all strengths of hydrochloric acid and mixtures of hydrochloric-hydrofluoric and hydrochloric-organic acids
6. Disperses easily in all acid-based fluids
7. Can provide acid corrosion inhibitor protection for as long as 24 hours
8. Can provide acid corrosion inhibitor protection for K55, J55, N80, CT80, C-95, QT800 and P110, P110S etcetera.

Physical Indicators of UZ CI-180V

ITEMS	Specifications	RESULTS
pH @ 25 °C	pH _{≤6} (pH meter)	0.84
S.G. @ 25 °C	1.0-1.2 (Densimeter)	1.112
CORR RATE	≤0.05Lbs/ft ² (C-95, 20% HCl+8% Acid diverter (UZV-180)+ 1.8% Corrosion inhibitors (UZ CI-180V)+1% Iron controller (IC-150)+4% Intensifier (CII-400), 6Hrs, 150°C)	0.0261Lbs/ft ²

Applications

Matrix acidizing stimulation operations
Fracture acidizing stimulation operations
Wellbore cleaning with acid formulations

Safety Precautions

All personnel handling this material must handle it as an industrial chemical, wearing protective equipment and observing the precautions as described in the Material Safety Data Sheet.

Packaging and Storage

Packed in 200Litre drum or 1000 Litre IBC (Tote Tank).

Store in dry, well-ventilated area. Keep container closed. Keep away from heat, sparks and flames. Store away from incompatibles. Follow safe warehousing practices regarding palletizing, banding, shrink-wrapping and/or stacking.

Attachment

1. Test of specific gravity

Loading 250 ml sample into 250 ml measuring cylinder. Place the measuring cylinder in a water bath and keep the temperature at 25°C.

Put in a densitometer to measure sample specific gravity, record it.

Test of pH value

Loading 100 ml sample into 250 ml beaker.

Place the beaker in a water bath and keep the temperature at 25°C.

Check the pH meter.

The pH value of the sample is measured by pH meter, record it.

Test methods of corrosion rate

Preparation of desired concentration HCl acidizing fluid

The acid solution was prepared as acidizing fluid recipe.

The prepared 200 ml of the desired concentration HCl acidizing fluid was poured into the liner respectively;

Immersed the pre-weighed and measured two coupons into the acid solution;

Put the liner into the corrosion reactor and covered lid;

Warmed up the corrosion reactor to desired temperature, then kept reaction for desired hours;

Released pressure and opened lid, took out the liner from the corrosion reactor, then took out the coupons from the liner, wiped, cleaned and weighed;

Calculated the corrosion rate at different time, the unit is Lbs/Ft²;

Checked if the coupon was with corrosive pitting; if yes, record it.

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Youzhu Chem offers a wide range of oil field chemicals widely used in the various stages of oil and gas production. And we have developed the finest quality Oil Soluble Demulsifier, Water Soluble Demulsifier and Corrosion Inhibitors. Our products enable customers to maximize value in their oilfield operations, and increase the overall efficiency of the well.