

The graphic for "Product Portfolio" consists of a vertical blue bar on the left, a thin blue line extending from the bar to a small white circle, and the words "PRODUCT PORTFOLIO" in a large, bold, blue, sans-serif font.

## IMPROVING PRODUCTION

### Enhancing Performance

Operators are under pressure to reduce costs, increase oil production and do more with less. Our solutions can help get your well on level footing — that's productive innovation.

Shotwell serves the oil and gas industry end-to-end, from blending specialty oilfield chemicals to enhance well performance, to products that control and prevent scale and corrosion, to chemistries for refineries and petrochemical utilities.

PRODUCT	DESCRIPTION	APPLICATIONS
<b>BIOCIDES</b>		
• SHBC-9010	10% DDAC	• Utilized in water treatment, algae treatment, and oil & gas.
• SHBC-9020	12% GLUT, 1.2% ADBAC, 1.8% DDAC BLEND	• Utilized in water treatment, paper mills, and oil & gas.
<b>CORROSION INHIBITORS</b>		
• SHCI-3501	Oil soluble corrosion inhibitor, Dimer/trimer acid-based formula, Concentrate that is diluted for RTU product.	• Oil & gas production, processing and transportation.
• SHCI-3401	Water soluble corrosion inhibitor, Cationic, Concentrate that is diluted for RTU product.	• Oil & gas production, processing and transportation.
• SHCI-3402	Water soluble corrosion inhibitor, Anionic, Concentrate that is diluted for RTU product.	• Oil & gas production, processing and transportation.
• SHCI-3403	High temperature (177°C), water-soluble corrosion inhibitor, Concentrate that is diluted for RTU product.	• Oil & gas production, processing and transportation.
<b>CONVENTIONAL ACID ADDITIVES</b>		
• SHAA-9100	Intensifier that supports corrosion inhibition in low temperature applications.	• Used with any conventional acid (H <sub>2</sub> S, H <sub>2</sub> SO <sub>4</sub> , etc.) • Can be with any of the SHGA line for additional protection.
• SHAA-9200	Eco-Friendly, acid corrosion inhibitor that is effective for broad protection of common steels and alloys in high temperature applications up to 220°C (430°F).	• Used with any conventional acid (H <sub>2</sub> S, H <sub>2</sub> SO <sub>4</sub> , etc.) • Can be with any of the SHGA line for additional protection.
<b>DEGREASERS</b>		
• SHDG-6000	Blend of vegetable esters, citrus terpenes and surfactants. With a high flash point (>142°F), it is ideal for parts cleaning and heavy degreaser applications. The product is very effective a removing crude oil, tar and asphalt. It can be rinsed with water or diluted at the time of use to make a time release microemulsion.	• Oilfield chemicals • Industrial degreasers and cleaners
• SHDG-6010	High performance blend of biobased solvents and surface wetting agents designed specifically for well bore cleaning. Effectively cleans asphaltene and paraffins from oil-wet surfaces preventing their re-adsorption by leaving surfaces water wet. Can be used during completion and production to remove pipe dope, asphaltenes and paraffins.	• Oilfield chemicals • Solvents • Degreasing agents
• SHDG-6011	Industrial strength cleaner and degreaser made from all bio-based ingredients. Can be used neat or diluted at time of use. Designed to rinse free.	• Oilfield chemicals • Industrial degreasers and cleaners

PRODUCT	DESCRIPTION	APPLICATIONS
<b>DEGREASERS</b>		
• SHDG-6020	Combination of d-limonene and soy methyl ester with a flash point of greater than 140F, making it ideal for parts washing and general degreasing applications requiring a non-flammable solvent.	• Industrial cleaning applications
• SHDG-6021	Solvent based on soy methyl ester. It is ideal for applications requiring a flash point greater than 200°F. It is slow evaporating solvent with excellent penetrating characteristics. The product has been awarded, Design for the Environment recognition by the EPA.	• Industrial cleaning applications
• SHDG-6030	Patented blend of citrus terpenes and a surfactant emulsion. Has performance characteristics of products containing up to 40% petroleum-based solvents. Various dilutions can produce products for cleaning metal parts, removing crude oil stains, washing oil field rigs, stripping latex, removing adhesives and cleaning up graffiti.	• Degreaser, Oilfield rig wash, Graffiti removal, Bug and Tar Remover, Kitchen Cleaner, Marker & ink remover, Carpet cleaner, Laundry pre-treat, Industrial laundry, and Wall & tile cleaner.
<b>FRICTION REDUCERS</b>		
• SHFR-9008	Synthetic, high molecular weight, anionic polyacrylamide copolymer.	• Hydraulic fracturing operations utilizing freshwater to moderately high brines, comprised predominantly of monovalent cationic species.
• SHFR-9220	Synthetic, high molecular weight, anionic polyacrylamide copolymer.	• Recommended for use in hydraulic fracturing operations utilizing freshwater to moderately high brines, comprised predominantly of monovalent cationic species.
• SHFR-9230	Synthetic, high molecular weight, anionic polyacrylamide copolymer.	• Formulated for use in hydraulic fracturing operations, which utilize freshwater or light brines as the fracturing fluid.
• SHFR-9330	Synthetic, high molecular weight, anionic polyacrylamide copolymer.	• Formulated for use in hydraulic fracturing operations, which utilize mid to high brines as the fracturing fluid.
• SHFR-9500	Complex blend of organic solvents (plant based), nano colloidal compounds and flow improvers. Minimal VOC contributions.	• Can be injected into the reservoir, production line, pipelines, and treatment & storage tanks.
<b>GREEN CAUSTICS</b>		
• SHGC-9300	Modified Alkali product that has comparable abilities of caustic soda w/o the hazardous exposure and corrosion properties.	• Can be used in any situation where pH of the fluid needs to be adjusted (upwards) such as H2S/CO2 sequestration in drilling fluids, caustic scrubbers. • Bitumen extraction, ASP water floods, Enhance polymer hydration properties, degreaser/cleaning agent, Neutralizing agent.

PRODUCT	DESCRIPTION	APPLICATIONS
<b>GREEN ACIDS</b>		
<ul style="list-style-type: none"> <li>SHGA-9100</li> </ul>	Unreacted HF donor. Activated by SHGA-9600 resulting in the fluoride ion being released and thus exhibits all the dissolution characteristics of HF acid.	<ul style="list-style-type: none"> <li>Downhole in sandstone formations where silica is present.</li> <li>Other HF applications such as acid-mud systems.</li> </ul>
<ul style="list-style-type: none"> <li>SHGA-9300</li> </ul>	Strong (21% HCl equivalent), odorless, non-oxidizing, nonvolatile acid, alternative with zero halogens and will not produce chlorides.	<ul style="list-style-type: none"> <li>Ideal for applications where a strong acid is required and high temperatures or exotic metals are exposed (chrome, aluminum)</li> <li>Cleaning of exchangers, pumps, etc. that contain soft metals such as aluminum, chrome, nickel, etc.</li> </ul>
<ul style="list-style-type: none"> <li>SHGA-9400</li> </ul>	High performance NORM descaler designed to remove sulfite scale with the ability to dissolve large amounts of barium sulfate. It also reduces the size of the sulfate particles and limits reprecipitation.	<ul style="list-style-type: none"> <li>Applications where the scale contains strontium, barium and/or calcium scale including downhole or surface applications.</li> </ul>
<ul style="list-style-type: none"> <li>SHGA-9600</li> </ul>	Low-hazard replacement for all HCl blends designed to be applied on high to ultra-high temperature applications. It provides optimal wormholing PVbt-opt efficiency vs HCl or other competitors.	<ul style="list-style-type: none"> <li>Can be used in acid fracturing, matrix stimulations or spearhead applications. The lower interstitial velocity allows for the reduction in the requirements for high injection rates typically utilized with HCl.</li> <li>Treatment of low-permeability, high calcite formations.</li> </ul>
<ul style="list-style-type: none"> <li>SHGA-9700</li> </ul>	Low hazard replacement for HCl that has comparable reaction rates to 15% HCl (at a 33% dilution).	<ul style="list-style-type: none"> <li>During pump-downs as a spearhead acid in lower temperature applications.</li> <li>Low temperature scale removal in piping, heat exchangers, boilers, etc.</li> </ul>
<ul style="list-style-type: none"> <li>SHGA-9804</li> </ul>	An alternative to citric acid, SHGA-9804 is designed to function as a drop-in replacement. Citric acid has a very low calcium carbonate (or similar scale) dissolution loading, but SHGA-9804 has the same dissolution properties as a 7.5% muriatic (hydrochloric) acid solution, but with all the safety features of citric acid.	<ul style="list-style-type: none"> <li>SHGA-9804 is supplied as a field-ready RTU (ready-to-use) product.</li> <li>Add to the material to be cleaned (surface) or pumped down-hole and allow to soak.</li> <li>No neutralization step is required. For heavier build-ups, the product can be left on for longer periods, including overnight, without the concern for metal damage.</li> </ul>
<b>H<sub>2</sub>S SCAVENGERS</b>		
<ul style="list-style-type: none"> <li>SHSCH1-8000</li> </ul>	H <sub>2</sub> S scavenger based on MEA triazine that also contains NRGMax <sup>®</sup> which dramatically boosts the efficacy of triazine. Allows for 95-100% product usage or a 33% increase in residence time before breakthrough.	<ul style="list-style-type: none"> <li>Oil &amp; Gas production, Bubble towers, static mixing applications.</li> </ul>

PRODUCT	DESCRIPTION	APPLICATIONS
<b>H<sub>2</sub>S SCAVENGERS</b>		
• SHSC-8003	A water-soluble, oil-dispersible, non triazine-based hydrogen sulfide scavenger. It is highly engineered for the treatment of hydrocarbon streams that will be processed in refineries. SHSC-8003 will convert H <sub>2</sub> S into a non-toxic, stable irreversible sulfate salt and water.	<ul style="list-style-type: none"> <li>Removal of H<sub>2</sub>S in crude oil production streams and for treatment in barges and tankers.</li> <li>Suitable for storage tanks and recirculation.</li> </ul>
• SHSC-8005	A water-soluble, oil-dispersible hydrogen sulfide and mercaptan scavenger.	<ul style="list-style-type: none"> <li>Can be applied in crude oil production streams and for cargo treatment in barges and tankers of fuel oil and crude.</li> <li>Suitable for storage tanks and recirculation.</li> </ul>
<b>PARAFFIN and/or ASPHALTENE CONTROL</b>		
• PD-6582	Complex mixture of crystal modifiers, solvents, and surfactants used as a dispersant with additional inhibition properties for inhibition and control of paraffin deposition.	<ul style="list-style-type: none"> <li>Oil &amp; Gas surface equipment, flowlines, tubulars, near wellbore, and formations.</li> </ul>
• SHAR-9400	Bio-degradable, water-based solvent designed for asphaltene control. Will remove existing deposits.	<ul style="list-style-type: none"> <li>Oil &amp; Gas EOR, petroleum refining, pipeline cleaning, asphaltene removal, and heavy oil viscosity improvement.</li> </ul>
<b>SCALE INHIBITORS</b>		
• SHSI1-2200	All-purpose scale inhibitor containing 6% DETA active solution and can work synergistically with polymeric scale inhibitors to create an effective solution for heavily scaling wells. This broad-spectrum scale inhibitor controls calcium carbonate scales, calcium sulfate scales, and barium sulfate scales.	<ul style="list-style-type: none"> <li>Oil &amp; gas production, processing and transportation.</li> </ul>
• SHSI1-2300	All-purpose scale inhibitor containing 10% BHMT active solution. This broad-spectrum scale inhibitor controls calcium carbonate scales, calcium sulfate scales, and barium sulfate scales.	<ul style="list-style-type: none"> <li>Oil &amp; gas production, processing and transportation.</li> </ul>
• SHSI-2718	Multifunctional, bio-friendly polymer product that provides exceptional calcium carbonate, calcium sulfate and barium sulfate inhibition in high salinity oilfield brines, flowback and slick water systems. Fed at 25 to 100 ppm.	<ul style="list-style-type: none"> <li>Oil &amp; gas production</li> </ul>
• SHSI-2786	Bio-friendly polymer product that is an outstanding workhorse inhibitor for hard forming scales such as strontium and/or barium sulfate, as well as calcium carbonate scales in typical oilfield brines. Stable over 120°C. Fed at 3 to 50 ppm.	<ul style="list-style-type: none"> <li>Oil &amp; gas production</li> </ul>
• SI-2500	An aqueous solution of 20% DETA phosphonate formulated with NRGMax®, developed for scale management.	<ul style="list-style-type: none"> <li>Oil &amp; Gas surface equipment, flowlines, tubulars, near wellbore, formation damage, tanks, pipelines, and SWDs.</li> </ul>
<b>SURFACTANTS</b>		
• SHSFH1-1000	Specialty non-emulsifier / frac surfactant containing performance enhancing NRGMax®.	<ul style="list-style-type: none"> <li>Oil &amp; Gas completions, EOR/Waterfloods, Restims, SWDs, and production tank batteries.</li> </ul>
• SHSFH1-1014	Proprietary blend of surfactants and NRGMax® that is compatible with most frac fluid systems.	<ul style="list-style-type: none"> <li>Oil &amp; Gas completions, EOR/Waterfloods, Restims, SWDs, and production tank batteries.</li> </ul>

PRODUCT	DESCRIPTION	APPLICATIONS
<b>SURFACTANTS</b>		
• SHSFH1-1020	An environmentally safe, non-hazardous surfactant, Powered by NRGMax®, that is inherently safe for the environment, while improving fracture effectiveness and overall well performance. Does not contain marine pollutants, is nontoxic, and is comprised of ingredients from the EPA's Safer Choice ingredients list.	• Oil & Gas completions, EOR/Waterfloods, Restims, SWDs, and production tank batteries.
• SHSFH1-1020ME	Nonionic microemulsion surfactant that reduces interfacial and surface tensions while lowering capillary pressures for improved fluid recovery. This blend of surfactant and solvent penetrates and dissolves hydrocarbons, allowing fluid recovery.	• Oil & Gas completions, EOR/Acidizing frac fluids.
<b>SWD ADDITIVES</b>		
• SHSI-2786	Bio-friendly biopolymer, Multi-scale prevention including barium and calcite deposits, Works on comingled waters, 3-50 ppm feed rate.	• Oil & Gas production, SWDs
• SHWT-9000	All natural, non-polymeric precipitant for heavy metals and salts.	• Oil & Gas production, SWDs
• SHGA-9300	Strong (21% HCl equivalent), odorless, non-oxidizing, nonvolatile acid, alternative with zero halogens and will not produce chlorides. Prevents deposition by lowering the pH, removes existing deposits, compatible with soft metals.	• Oil & Gas production, SWDs
<b>SPECIALTY PRODUCTS</b>		
• SHSIX1-2501	An effective alternative to hydrochloric acid. It prevents scale formation, iron build up, and degradation of materials and parts exposed to corrosive solutions on frac equipment. Formulated with our proprietary technology, NRGMax®, SHSIX1-2501 will dissolve most Fe, Ca, and CO3-2 scales.	• Oil & Gas production and SWDs.
• SHPA-9850	Developed for asphaltene-based sludges. It is designed specifically for reliquefying or remediating petroleum (hydrocarbon) based sludges, sediment, and solids.	• Oil & Gas production and tank bottoms.
• SHPD-3660	Green industrial cleaner, descaler and paraffin remover designed to clean up damaged formations and wells.	• Oil & Gas EOR, petroleum refining, pipeline cleaning, scale removal, paraffin removal, and paraffin coated iron sulfate plug removal.
• SHPD-3685	Developed for is for paraffin-based sludges. It is designed specifically for reliquefying or remediating petroleum (hydrocarbon) based sludges, sediment, and solids.	• Oil & Gas production and tank bottoms.
• SHFR-9100	Diluent Optimizer for Heavy Oils.	• First blended with the current naphtha and then added to the number of barrels under treatment to improve flow assurance.
• SHMS-9700	Green "sealing" compound that penetrates the pores of the metal surface and creates a thin, protective coating that prevents corrosion for extended time frames.	• Coating of metal surfaces to prevent rust.
• SHRR-9500	Remove NORM radiation from surfaces including hard surface. Can be combined with one of the green acid products to address contaminated deposits.	• Designed to address NORM contaminated solids, solutions, and surfaces.

PRODUCT	DESCRIPTION	APPLICATIONS
<b>SPECIALTY PRODUCTS</b>		
<ul style="list-style-type: none"> <li>SHAR-9200</li> </ul>	Green, non-aromatic, plant-derived ingredient based asphaltene remover and solvent.	<ul style="list-style-type: none"> <li>Oil &amp; Gas production, surface and downhole treatment programs.</li> </ul>
<ul style="list-style-type: none"> <li>SHSF-1200</li> </ul>	Green, nanotechnology-based formulation that removes oil from any surface without any emulsification allowing for easy separation.	<ul style="list-style-type: none"> <li>Desorbing hydrocarbons from any media, equipment cleaning, wellbore clean up, wet well / lift station cleaning, heavy crude transport in pipelines, and soil washing.</li> </ul>
<b>VISCOSIFIERS</b>		
<ul style="list-style-type: none"> <li>SHFR-9020</li> </ul>	A technical grade, mid-viscosity, sodium carboxymethyl cellulose product meeting industry drilling standards API spec 13A section 9. SHFR-9020 functions as a viscosifier, while providing shale inhibition.	<ul style="list-style-type: none"> <li>In applications where viscosity is needed, but environmental concerns also exist, such as slickwater fracs, mud performance additives, and viscosity builders.</li> <li>Applicable in fresh water, sea water and salt-saturated water fluid systems.</li> <li>Suitable for high temperature and high-pressure applications.</li> </ul>
<ul style="list-style-type: none"> <li>SHFR-9200</li> </ul>	A premium quality, high viscosity grade Polyanionic Cellulose (PAC R Pure) product. SHFR-9200 is a high molecular weight, water soluble anionic polymer of purified Polyanionic Cellulose. Adding the product increases apparent viscosity and yield point.	<ul style="list-style-type: none"> <li>In applications where viscosity is needed, but environmental concerns also exist, such as slickwater fracs, mud performance additives, and viscosity builders.</li> <li>Applicable in fresh water, sea water and salt-saturated water fluid systems.</li> <li>Suitable for high temperature and high-pressure applications.</li> </ul>

# WHY SHOTWELL?



## LOCATION

- ▶ Heart of Permian Basin
- ▶ 35,000 square feet
- ▶ Midland, Texas



## LEADING-EDGE FACILITY

- ▶ Fully Automated
- ▶ ISO9001:2015 certified
- ▶ NSF certified
- ▶ A team with 75+ years of combined experience



## QUALITY

- ▶ Blend capability up to 57.6M gallons per year
- ▶ Manufacture 500,000 gallons of surfactant/month
- ▶ Stringent Quality Control and Quality Assurance Standards



## SERVICE

- ▶ Reliable technical and lab support
- ▶ 24x7 Logistical Support
- ▶ Transport bulk 330-gallon totes or ISO containers to field