

**Wisconsin Department of Natural Resource Approved Well Disinfectant, Rehabilitation and Development Products List - Through 2015**

<b>Approval Date</b>	<b>Manufacturer or Distributor</b>	<b>Product Name</b>	<b>Materials(s)</b>	<b>Uses</b>	<b>Special Conditions</b>
01/30/1996	Aqua Freed Water Retrieval Specialists	"Aqua Freed Process"	Carbon dioxide- liquid & gaseous & carbonic acid (created)	Well rehabilitation-removal of mineral encrustation and biofilm slimes	* See Warning in Footnote
05/09/2011	AquaBiotics Industrial Pty, Ltd.	"BoreSaver IKL PRO"	A liquid chemical mixture containing hydrochloric acid, citric acid and an EO/PO co-polymer	Well rehabilitation chemical; viz. an acidic well cleaning product designed to remove carbonates, manganese and iron oxide deposits from wells	* See Warning in Footnote
05/10/2011	AquaBiotics Industrial Pty, Ltd.	"BoreSaver Ultra C"	A dry crystalline acid product containing an oxalic acid, a bisulfate, and an EO/PO co-polymer	Well rehabilitation chemical: viz. an acidic well cleaning product designed to remove iron oxide deposits from wells	* See Warning in Footnote
03/30/2000	Baroid Industrial Drilling Products	"Aqua-Clear AE"	Liquid blend of acid & acid enhancers	Well rehabilitation; to control bacterial slime caused by iron & sulfur reducing bacteria.	* See Warning in Footnote
01/06/2000	Baroid Industrial Drilling Products	"Aqua-Clear MSR"	Dry granular pyrophosphate blended with a dispersant	Well development & rehabilitation; to help remove drilling mud residue and sediment from well screens and other components	* See Warning in Footnote
01/05/2000	Baroid Industrial Drilling Products	"Aqua-Clear MGA"	Dry blend of granular acid with additives	Well rehabilitation; to remove iron, manganese and carbonate scale	* See Warning in Footnote
08/21/2002	Calciquest	"Bio Sabre"	Sodium-based blend of phosphate ingredients	Well rehabilitation, especially to penetrate and break down biofilms in wells.	* See Warning in Footnote
10/29/2001	Carus Chemical Company	"IntelliChlor"	Liquid blend of acid with an additive enhancer	Controlling pH during chlorination disinfection procedures & for well rehab.	* See Warning in Footnote
09/17/1990	CETCO	"DPA"	Concentrated, white granular nonvolatile inorganic acid (NSF Approved)	Well treatment for cleaning mineral scale from screens, gravel packs and formation material	* See Warning in Footnote
07/19/1990	CETCO	"LBA" (Liquid Chelatin Agent) (Formerly Liquid Biofouling Agent)	Liquid organic acid chelating agent (NSF Approved)	Well treatment for iron bacteria by removing slime and destroying bacteria	* See Warning in Footnote
05/23/1996	CETCO	"SC-200"	Non-ionic liquid surfactant wetting agent	Well rehabilitation; enhances dispersing efficiency of other well rehab products and for well development	None
04/18/1996	CETCO	"BMR" (Bentonite Mud Remover)	Inorganic acid salt (NSF Approved)	Well Development - by breaking down bentonite mud & natural clays and by dispersing and suspending clay particles	None

10/06/1993	CETCO; formerly Clear Well Sales, Inc.	"Clear Well Bacteria Controller" (BC&BE)	Weak acid plus a proprietary surfactant additive	Acidation product for wells to remove organic screen encrustation	* See Warning in Footnote
10/06/1993	CETCO; formerly Clear Well Sales, Inc.	"Clear Well Granular Acid" ("GA")	Weak acid plus a proprietary inhibitor & surfactant	Acidation product for wells to remove inorganic screen encrustation	* See Warning in Footnote
07/28/1993	CETCO; formerly Clear Well Sales, Inc.	"Clear Well Sediment and Mud Remover" (SR)	Phosphates	Dispersant for removing drilling mud, sediments and clays from wells during development	None
05/29/1997	Cotey Chemical Corp.	"Dry Acid Special"	Chemical powder that produces sulfamic acid when mixed with water	Well development and rehabilitation	* See Warning in Footnote
05/29/1997	Cotey Chemical Corp.	"Dry Acid"	Chemical powder that produces sulfuric acid when mixed with water	Well development and rehabilitation	* See Warning in Footnote
05/29/1997	Cotey Chemical Corp.	"Liquid Acid Descaler"	A mixture of liquid acids (Hydrochloric and glycolic) and a surfactant	Well development and rehabilitation	* See Warning in Footnote
05/29/1997	Cotey Chemical Corp.	"Mud-Nox"	Nonionic Surfactant	Well development and rehabilitation	* See Warning in Footnote
05/29/1997	Cotey Chemical Corp.	"Welgicide Cleaner"	Chemical Powder - containing a silicate, hydroxide and a pyrophosphate	Well rehabilitation	* See Warning in Footnote
09/09/1999	Design Water Technologies	"ChloralPal"	Buffered acid	To control pH during well chlorination procedures	* See Warning in Footnote
06/11/1997	Ecolab, Inc.	"XY-12"	Primarily sodium hypochlorite	Well disinfection and treatment	* See Warning in Footnote
09/25/2012	Fremont Industries/CDG Environmental/Anderson Chemical	"CDG Solution 3000"	0.3% Chlorine Dioxide Aqueous Solution	Biocide for well rehabilitation and closed loop heat pump applications	* See Warning in Footnote
09/13/2012	Heartland Solutions, Inc	"Oil Safe AR"	Synthetic Acid Replacement	Well rehabilitation, to dissolve encrustation on well screens and surrounding formation.	* See Warning in Footnote
05/21/2002	Hydrite Chemical Company	"Muriatic Acid 20 degree 103L"	Muriatic acid with an inhibitor	Well rehabilitation and controlling pH during well chlorination.	* See Warning in Footnote
02/14/1994	Jacam Chemical Partners, Ltd.	"Redi-Clean 1"	Weak acid & proprietary additives including a salt and a non-hazardous surfactant	Acidation product for wells esp. for screen encrustation	* See Warning in Footnote

02/22/1980	Johnson Division, UOP, Inc. (now U.S. Filter/Johnson Screen)	"Nu-Well"	Pelletized sulfamic acid with inhibition wetting agent and other ingredients (information confid. held by Department)	Dissolve encrustation on well screens and surrounding formation	* See Warning in Footnote
12/07/2007	Layne Christensen Company	"Layne Oximate"	Liquid acidic/surfactant product	Help control pH of disinfection/rehabilitation solution	* See Warning in Footnote
04/06/1999	Layne-Northwest, subsidiary of Layne, Inc.	"QC-21"	Aqueous solution of organic acid, with chelating agents and a surfactant.	Cleaning & well rehabilitation agent to control mineral precipitants, metal oxides and organic bio-mass deposits in well screens & gravel packs.	* See Warning in Footnote
04/24/2012	Pristine Water Solutions	"BioPurge WD-3100"	Biodispersant and biopenetrant	Control biofilms and reduce other biologically related problems in wells	* See Warning in Footnote
08/19/1999	Rin Rockford (Stiles-Kem Division)	"Bio Purge BD-2000"	Biodispersant and biopenetrant	Control biofilms and reduce other biologically related problems in wells	* See Warning in Footnote
12/22/1989	Several brands	"Detergent; liquid dishwashing - food grade"	Liquid surfactant	Cleaning wells contaminated with PCB oils from submersible pumps and capacitors	Food grade; no additives - like color or scent additives
03/07/1996	The Kjell Corporation	"F-25 Well Conditioner"	Liquid polymerized anionic phosphate complex	Well rehabilitation - cleaning wells contaminated with biofilms	* See Warning in Footnote
02/11/2000	U.S. Filter/Johnson Screen	"NW-310"	Polymeric acid (To be used in combination with "Nu-Well")	Well rehabilitation. To help break biofilms, disperse mineral salts, maintain acid reaction and hold debris in suspension.	* See Warning in Footnote
01/13/2003	Water Systems Engineering, Inc.	"NW-220"	Polymeric dispersant	Well development and redevelopment – To remove clays, muds and sediment from a well	* See Warning in Footnote
08/21/2002	Water Well Solutions	"WS <sup>2</sup> 3602 -- Well Conditioner"	Sodium-based blend of phosphate ingredients	Well rehabilitation, especially to penetrate and break down biofilms in wells.	* See Warning in Footnote
02/09/2010	Wausau Chemical Corporation	"Heat Transfer Fluid HTF-PG-HD"	Propylene glycol-based antifreeze fluid with two corrosion inhibitors	Heat exchange transfer fluid for closed-loop geothermal heat exchange heating/cooling systems	* See Warning in Footnote
07/01/2004	Wyo-Ben, Inc.	"ThinZ-It"	Polymeric drilling fluid additive and well development dispersant.	Drilling fluid additive -- to reduce viscosity; Or Well development dispersant -- to help remove clay and sediment from a well	As a drilling additive: May be used where air/foam drilling methods are allowed, Or In drilling mud, but only if drill mud slurry is replaced with neat cement grout at completion of well.

**\*When a product containing an acid is added to a well in combination with a chlorine product, adding too much of the acid or adding it too quickly, can lower the pH of the solution to a point where hazardous chlorine gas can be released. Appropriate safety precautions should be taken in this regard, especially when the well is located within an enclosure. In addition, any acid product must be properly flushed and neutralized following the rehabilitation procedure.**