

A Product Cross-References

WEIGHT MATERIALS

Description	M-I	Baroid	BH Inteq	DS/IDF	Primary Action
API barite (SG 4.2), barium sulfate	M-I BAR	Baroid	Mil-Bar	Barite	For increasing density to 20 lb/gal
Hematite (SG 5.0), iron oxide	FER-OX	Barodense	Densimix	Hematite	For increasing density to 25 lb/gal
Sized calcium carbonate (ground limestone) (SG 2.8)	LO-WATE	Baracarb	W.O.30	IDCarb	Acid soluble weighting and bridging agent for increasing density to 12 lb/gal
Sized calcium carbonate (ground marble) (SG 2.8)	SAFE-CARB	—	—	—	High purity acid soluble weighting and bridging agent for increasing density to 12 lb/gal

VISCOSIFIERS

API Wyoming bentonite	M-I GEL	Aquagel	Milgel	Wyoming Bentonite	Viscosity and filtration control
API non-treated Wyoming bentonite	GEL SUPREME	Aquagel Gold Seal	Milgel NT	Non-Treated Bentonite	Viscosity and filtration control
High-yield blended bentonite	KWIK-THIK	Quik-Gel	Super-Col	—	Quick viscosity for freshwater upper hole muds
API attapulgite	SALT GEL	Zeogel	Salt Water Gel	Attapulgite	Viscosity in saltwater muds
API sepiolite	DUROGEL	Sea-Mud	—	GelTemp	Viscosity for freshwater, saltwater and high-temperature geothermal muds
Saponite clay	GELITE	—	—	—	Viscosity for freshwater and saltwater muds
Organic total flocculant	FLOXIT	Barafloc	—	—	Flocculant to settle solids in "clear water" drilling
Bentonite extender/selective flocculant	GELEX	X-Tend II	Benex	DV-68	For extending the yield of bentonite in low-solids muds and as selective flocculant
High molecular weight xanthan gum biopolymer	DUO-VIS	Barazan	Xanplex D	Idvis	Bacterially produced xanthan gum for viscosity and suspension in all water-base muds
Premium grade clarified xanthan gum biopolymer	FLO-VIS	—	—	—	Bacterially produced xanthan gum for viscosity and suspension in drill-in fluid systems
Welan gum biopolymer	Biozan	Biozan	Biozan	Biozan	Bacterially produced welan gum for viscosity and suspension in high calcium or lower salinity water-base muds
Guar gum	Lo-Loss	—	New-Vis	SM(X)	Viscosity and fluid-loss control in low-solids muds
Hydroxyethylcellulose	HEC	Baravis	W.O. 21	Idhec	Viscosity in brine workover/completion fluids and water-base muds

Product Cross-References**DISPERSANTS/DEFLOCCULANTS**

Description	M-I	Baroid	BH Inteq	DS/IDF	Primary Action
Lignite	TANNATHIN	Carbonox	Ligco	Lignite	Thinner, emulsifier and fluid-loss control
Causticized lignite	CAUSTILIG	CC-16	Ligcon	Causticised lignite	Thinner, emulsifier and fluid-loss control for higher temperature muds
Causticized potassium lignite	K-17	K-Lig	XKB-Lig	—	Thinner, emulsifier and fluid-loss control for potassium-base muds
Chrome lignite	XP-20	—	—	CL-11	High-temperature thinner, emulsifier, and fluid-loss control
Chrome lignosulfonate Ferrochrome lignosulfonate	SPERSENE SPERSENE I	— Q-Broxin	Uni-Cal —	— Ferrochrome lignosulfonate	Thinner, inhibitor, fluid-loss control and temperature stabilizer
Chrome-free lignosulfonate	SPERSENE CF	Enviro-Thin	Teq-Thin CF	Polylig	Environmentally acceptable thinner, inhibitor and fluid-loss control
Tannin extract blend	Quebracho	Tannex	Quebracho	—	Thinner and fluid-loss control for low solids, high-pH systems and lime muds
Polyacrylate — low-molecular weight	TACKLE	Therma-Thin	Mil-Thin +G87	Idthin 500 Iospense HT	High-temperature liquid polymer thinner
Modified chrome tannin	Desco	—	New-Thin	—	Thinner and protective colloid
Modified chrome-free tannin	Desco CF	—	—	—	Chrome-free thinner and protective colloid
Sulfonated polymer	RHEOSTAR	—	Mil-Temp	—	HTHP thinner

FLUID-LOSS-CONTROL AGENTS

Liquid resin blend	THERMEX	—	—	—	Stabilize WBM flow properties, reduce fluid loss in high-temperature systems
Resinated lignite	RESINEX	Baranex	Filtrex	IDF Hi-Temp	High-temperature fluid-loss control and rheology stabilizer for all water-base muds
Pregelatinized corn starch	MY-LO-JEL	Impermex	Milstarch	Idflo LT	Fluid-loss control and rheology stabilizer for saturated saltwater, lime and freshwater muds
Preserved polysaccharide	POLY-SAL	Dextrid	Perma-Lose HT	Idflo HTR	Non-fermenting starch for fluid-loss control, viscosity and shale stabilization in saltwater and freshwater muds
Modified polysaccharide	THERMPAC UL	—	Bio-Lose	—	Fluid-loss control with minimal viscosity increase
Sodium carboxymethylcellulose	CMC	Cellex	CMC	Rheopol	Fluid-loss control and viscosifier
Polyanionic Cellulose (PAC)	POLYPAC	PAC R	Mil-Pac	Idpac	Fluid-loss control and viscosifier
Polyanionic Cellulose (PAC) ultra-low viscosity	POLYPAC UL	PAC L	—	Idpac XL	Fluid-loss control with minimal viscosity increase
PAC premium grade	PAC PLUS	—	—	IDF-FLR	Fluid-loss control and viscosifier
PAC premium grade ultra-low viscosity	PAC PLUS UL	—	—	IDF-FLR XL	Fluid-loss control with minimal viscosity increase

Product Cross-References**FLUID-LOSS-CONTROL AGENTS (CONT.)**

Description	M-I	Baroid	BH Inteq	DS/IDF	Primary Action
Synthetic terpolymer	DURASTAR	Thermachek	Kemseal	—	HTHP fluid-loss control
Derived starch	FLO-TROL	—	—	—	Fluid-loss control and viscosifier for drill-in fluid systems
Sodium polyacrylate copolymer	SP-101	Poly AC	New-Trol	AP 21	High-temperature fluid loss and rheology stabilizer for low calcium, low solids or non-dispersed muds

SHALE STABILIZERS

Polyacrylamide — high-molecular weight PHPA	POLY-PLUS	EZ-Mud	New-Drill	Idbond	Encapsulating polymer for for freshwater and saltwater muds
Readily dispersible Polyacrylamide — high molecular weight PHPA	POLY-PLUS RD	EZ-Mud DP	New-Drill HP	Idbond PRD	Encapsulating polymer for freshwater and saltwater muds
Surfactant/polymer blend	SHALE CHEK	—	—	—	Proprietary shale and gumbo control additive
Potassium supplement	K-52	Potassium acetate	Potassium acetate	Potassium acetate	Potassium source (no chlorides) for potassium muds
Blown asphalt	STABIL HOLE	AK-70	Protectomagic	Asphalt	Oil dispersible shale stabilizer and lubricant
Water dispersable asphalt	HOLECOAT	—	Protectomagic M	—	Water dispersible shale stabilizer and lubricant
Sulfonated asphalt	ASPHASOL	Baro-Trol	Soltex	Idtex W	Shale stabilizer, fluid-loss control and lubricant
Gilsonite with coupler	Bore-Plate	Barablok 400	Shale-Bond	—	Water dispersible shale stabilizer and plugging agent
Organic hydration suppressant	KLA-GARD	—	—	—	Proprietary shale and gumbo hydration suppressant
Polyglycol water-base system	GLYDRIL	GEM	Aqua-Dril	Staplex	Shale stabilizer, fluid-loss control and lubricant
Poly amino acid hydration suppressant	KLA-CURE	Clay-Seal	—	—	Proprietary shale and gumbo hydration suppressant
Poly amino acid hydration suppressant	KLA-CURE II	—	—	—	Proprietary shale and gumbo hydration suppressant with mild detergent to prevent balling
Mixed Metal Hydroxide (MMH)	Polyvis II (SKW)	—	Alplex	Visplex	Shale stabilizer MMH

CATIONIC SHALE STABILIZERS

Cationic polymer — high-molecular weight	MCAT	Barocat	Kat-Drill	—	Encapsulating polymer for cationic systems
Cationic swelling suppressant — low-molecular weight	MCAT-A	—	Poly-Kat	—	Proprietary swelling suppressant

LUBRICANTS, EMULSIFIERS AND SURFACTANTS

Description	M-I	Baroid	BH Inteq	DS/IDF	Primary Action
Extreme pressure lubricant	E.P. LUBE	EP Mudlube	Mil-Lube	Idlube XL	Extreme-pressure lubricant to reduce torque and drag
Low-toxicity lubricant	LUBE-167	Torque Trim II	Lubri-Sal 2	Idlube	Low-toxicity lubricant for water-base muds
Low-toxicity lubricant	LUBE-100	Enviro-Torq	Mil-Lube	Easy Drill	Low-toxicity lubricant for water-base muds
Drilling detergent	D-D	Con-Det	MilPark MD	Drilling detergent	Surface tension reducer to prevent balling, drop sand and emulsify oil
Non-ionic surfactant	DRIL-KLEEN	Aktaflo-S	DMS	IdSurf	Additive to prevent bit and BHA balling
Non-ionic emulsifier	SURFAK-M	Aktaflo-E	—	Hymul	Emulsifier for oil-in-water emulsions
Anionic emulsifier	SALINEX	Trimulso	—	—	Emulsifier for saturated, salt or freshwater muds
Low-toxicity stuck pipe soaking fluid	PIPE-LAX ENV	Enviro-Spot	Bio-Spot	—	Environmentally acceptable stuck pipe liberator-spotting fluids
Weightable stuck pipe soaking fluid	PIPE-LAX W	Baro-Spot	Black Magic SFT	Idfree	Weightable stuck pipe liberator-spotting fluid
Stuck pipe soaking fluid	PIPE-LAX	—	Black Magic Clean	Idfree NT	Stuck pipe liberator-spotting fluid
Glycol/asphalt blend	—	BXR-L	Aquamagic	—	Lubricant/differential sticking preventative
Liquid defoamer	DEFOAM-X	Bara-Defoam-1/W-300	LD-8	Defoamer	All purpose defoamer for water-base mud
Alcohol-based defoamer	DEFOAM-A M-I DEFOAMER	—	—	Antifoam S	All purpose defoamer for water-base mud

CORROSION INHIBITORS

Water dispersible filming amine	CONQOR 101	—	Mud-Pac	Idfilm 120	Corrosion inhibitor for freshwater-base (low calcium) muds and packer fluids
Persistent filming amine	CONQOR 202B	Bara-Film	Ami-Tec	Idfilm 420	Persistent film forming amine for direct application to the drillstring
Brine soluble blended amine	CONQOR 303A	Baracor 100	Brine-Pac	Idfilm 220 X	Corrosion inhibitor for workover or completion brine systems and water-base muds
Modified organic inhibitor blend	CONQOR 404	—	—	—	Low toxicity product for oxygen corrosion in water-base and aerated muds
Scale inhibitor	SI-1000	Stabilite	Scale-Ban	—	Tubular goods scale inhibitor in drilling and completion fluids
Sulfide scavenger	SULF-X	Baracor 44	Mil-Gard R	Idzac	Zinc oxide H ₂ S scavenger
Biocide	BACBAN III	Aldacide-G	Dryocide	Idcide	Bactericide
Oxygen scavenger	OS1-L	Bara Scav D	Noxygen	Idscav 110/110X	Removes oxygen from water-base muds
Corrosion/erosion inhibitor	UNISTEAM	—	—	—	Geothermal air drilling resinous amine

A Product Cross-References

LOST-CIRCULATION MATERIALS

Description	M-I	Baroid	BH Inteq	DS/IDF	Primary Action
Micronized cellulose fiber	M-I-X II	Barofiber	Chek-Loss	—	Bridging and sealing permeable formations
Nut shells	NUT PLUG	Wall-Nut	Mil-Plug	Walnut shells	Granular Lost-Circulation Material (LCM)
Sized graphite	G-SEAL	Steel Seal	—	—	Lost circulation and seepage
Mica	Mica	Micatex	MilMica	Mica	Flake LCM for seepage losses and prevention
Shredded cedar fiber	Cedar fiber	Plug-Git	Mil-Cedar Fiber	—	Fibrous LCM for general loss of returns
Cellophane flakes	Flake	JelFlake	Mil-Flake	Cellophane flakes	Flake LCM matting agent
Blended LCM	Kwik-Seal M-I Seal	Baro-Seal	Mil-Seal	Id-Seal	Blend of fibrous, flaky and granular LCM
Cottonseed hulls	Cottonseed hulls	Cottonseed hulls	Cottonseed hulls	Cottonseed hulls	For all types of lost circulation
Blended high-fluid-loss LCM	DIASEAL M	—	—	Di-Plug	Diatomaceous earth blend for preparing soft plugs for severe lost circulation
Low-density inert solid LCM	DIASEAL D	—	—	—	Inert solids for high fluid loss soft plug squeezes
Shredded paper	DRILLING PAPER	Hy-Seal	Paper	—	Shredded paper for seepage losses
Cellulose fibers	Ven-Fyber	—	—	—	Cellulose fibers for lost circulation and sweeps in oil-base muds
Granular plastic chips	Pheno-Seal	—	—	—	Granular phenolic plastic chip LCM

OIL MUD PRODUCTS

Diesel oil mud system	VERSADRIL	Invermul	Carbo-Drill	Interdrill-D	Diesel oil invert mud system
Mineral oil mud system	VERSACLEAN	Enviromul	—	Interdrill-N	Mineral oil invert mud system
Basic emulsifier package	VERSAMUL	Invermul NT	Carbo-Mul	Interdrill Emul	Primary emulsifier and wetting agent in the basic oil mud system
Organophilic clay	VG-69 VG-PLUS VG-HT	Geltone II	Carbo-Vis	Interdrill Vistone	Viscosifier and gelling agent
Organic surfactant emulsifier	VERSACOAT	EZ Mul	Carbo-Mul HT	Interdrill FL	Secondary emulsifier and wetting agent for water-in-oil fluids
Oil-wetting agent	VERSAWET	Invermul	Carbo-Tec L	Interdrill O.W.	Improve oil wetting of solids and emulsion stability
Asphaltic resin	VERSATROL	AK-70	Carbo-Trol	Interdrill S	Controls HTHP fluid loss
Amine-treated lignite	VERSALIG	Durotone HT	Carbo Trol A-9	Interdrill	Filtration control
Oil mud thinner	VERSATHIN	OMC	—	—	Reduces viscosity and gel strengths
LSRV rheology modifier, viscosifier	VERSAMOD	BaraResin Vis	6-Up	—	Increases yield point, gel strengths and carrying capacity

Product Cross-References**OIL MUD PRODUCTS (CONT.)**

Description	M-I	Baroid	BH Inteq	DS/IDF	Primary Action
Oil mud system viscosifier	VERSA-HRP	X-Vis	—	Tru-Plex	Increases yield point and gel strengths with minimal plastic viscosity
Surfactant cleaner	CLEAN-UP	Bara-Klean	Mil-Clean	Idwash	Detergent and degreaser for oil mud cleanup and cuttings wash
Wetting agent	VERSA SWA	—	—	—	Preferentially oil-wets solids and reverse potential water-wetting problems
Surfactant to reduce oil retained on cuttings	VERSATRIM	—	—	—	Reduces oil retained on cuttings

SYNTHETIC FLUID PRODUCTS

Ester fluid system	ECOGREEN	Petrofree	—	—	Synthetic ester-mud system
PAO fluid system	NOVADRIL	—	—	—	Synthetic PAO-mud system
Poly-Alpha Olefin (PAO)	—	—	—	—	Synthetic PAO-base liquid
IO fluid system	NOVAPLUS	—	Syn-Teq	Ultidrill	Synthetic IO-mud system
Internal Olefin (IO)	IO 16/18	—	—	—	Synthetic IO-base liquid
LAO fluid system	NOVALITE	Petrofree LE	—	—	Synthetic LAO-mud system
Linear Alpha Olefin (LAO)	LAO 14/16	—	—	—	Synthetic LAO-base liquid
Primary emulsifier	NOVAMUL	LE Mul	Omni-Mul	—	Provides emulsion stability, wetting, filtration control and temperature stability
Liquid wetting agent	NOVAWET	Drill-Treat	Omni-Cote	—	Improve synthetic fluid wetting of solids and emulsion stability
Synthetic fluid rheology modifier	NOVAMOD	RM-63	Omni-Plex	—	Increases yield point, gel strengths and carrying capacity
Synthetic-base system thinner	NOVATHIN	LE Thin	—	—	Reduces viscosity and gel strengths
Organophilic clay	VG-PLUS	Geltone II	Carbo-Gel	—	Viscosifier and gelling agent

WORKOVER AND COMPLETION FLUID PRODUCTS

Potassium chloride	KCl	KCl	KCl	KCl	Shale inhibition and increasing density to 9.7 lb/gal
Sodium chloride	NaCl	—	—	—	Shale inhibition and increasing density to 10.0 lb/gal
Calcium chloride	CaCl ₂	—	—	—	Shale inhibition and increasing density to 11.6 lb/gal
Calcium bromide (liquid)	CaBr ₂	—	—	—	Increasing density to 14.2 lb/gal
Zinc bromide (liquid)	ZnBr ₂	—	—	—	(ZnBr ₂ /CaBr ₂) brine for density to 19.2 lb/gal
Sodium bromide	NaBr	—	—	—	Workover and completion fluid up to 12.5 lb/gal where formation waters contain high concentrations of bicarbonate and sulfate ions
Polymers, carbonates and pH buffer blend	POLYBRINE	—	W.O. 20	—	Viscosifier, fluid loss and pH additive for brines
Polymer and bridging agent	SAFE-LINK	—	—	—	Water soluble sized salt bridging agent and viscosifier for fluid-loss control in saturated brines

WORKOVER AND COMPLETION FLUID PRODUCTS (CONT.)

Description	M-I	Baroid	BH Inteq	DS/IDF	Primary Action
Sized salt bridging agent	SAFE-BLOCK	Baraplug X/XC	—	—	Bridging and plugging material for lost circulation
Sized calcium carbonate weighting agent	Watesal (TBC)	—	W.O, 35	—	Weighting and bridging agent for saturated brines
Surfactant to cleanse wellbore	SAFE-SOLV WBM	Dirt Magnet	Dirt Magnet	—	Cleaning agent to remove mud and other solids from wellbore
Defoamer	M-I DEFOAMER	Barabrine Defoamer	Tetra Defoam	Defoamer	Alcohol-based defoamer
Modified starch	FLO-TROL	—	—	—	Filtration-control additive
Magnesium oxide	Magox	—	pH Buffer (TBC)	—	pH buffer
Hydroxyethylcellulose (HEC)	SAFE-VIS	Baravis	W.O. 21	Idhec	Viscosity in brine workover/completion fluids and water-base muds
Hydroxyethylcellulose (HEC)	SAFE-VIS E	Bromi-Vis	—	—	Liquid viscosifier for single-salt brines

COMMON CHEMICALS

Sodium hydroxide (NaOH)	Caustic soda	—	—	—	pH control in water-base muds
Sodium bicarbonate (NaHCO ₃)	Bicarbonate of soda	—	—	—	Calcium precipitant and pH reducer in cement contaminated muds
Sodium carbonate (Na ₂ CO ₃)	Soda ash	—	—	—	Calcium precipitant in lower pH muds
Sodium chloride (NaCl)	Salt	—	—	—	Saturated salt muds, workover/completion fluids and resistivity control
Calcium hydroxide (Ca(OH) ₂)	Lime	—	—	—	Calcium source and increasing pH
Calcium oxide (CaO)	Hotlime	—	—	—	Calcium source and increasing pH
Calcium sulfate (CaSO ₄ •2H ₂ O)	Gypsum	—	—	—	Calcium source at a neutral pH
Calcium chloride (CaCl ₂)	Calcium chloride	—	—	—	Calcium salt used to control the activity of oil-base muds and workover/completion fluids
Magnesium oxide (MgO)	Mag Ox	—	—	—	Magnesium source and increasing pH
Potassium carbonate (K ₂ CO ₃)	Potassium carbonate	—	—	—	Potassium source in inhibitive potassium muds
Potassium chloride (KCl)	Muriate of potash	—	—	—	Potassium source in inhibitive muds
Potassium hydroxide (KOH)	Caustic potash	—	—	—	Potassium source and increasing pH in potassium muds
Sodium tetraphosphate (Na ₆ P ₄ O ₁₃)	PHOS	Barafos	—	—	Thinner in low pH muds and calcium sequestering agent
Sodium acid pyrophosphate (Na ₂ H ₂ P ₂ O ₇)	SAPP	—	—	—	Thinner in low pH muds and calcium sequestering agent
Potassium nitrate (K ₂ NO ₃)	Potassium nitrate	K-Nitrate	—	—	Tracer

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