

**Sourcing List**

Commodity	Material	Description	Long Description
Chemicals	6000004047	Isolation packer expandable	PACKER; MECHANICAL, SWELLABLE, ISOLATION PACKERS
Chemicals	1000845182	H2S SCAVENGER, LIQUID	ADDITIVE DRILLING FLUID; LIQUID FORM,NITROGEN,FOR ADMXTURE HYDROGEN SULFIDE SCAVENGER FOR USE IN WATER-BASE MUD AND INVERT EMULSION OIL-BASE MUD. NITROGEN-BASED ORGANIC LIQUID COMPOUND. READILY AVAILABLE FOR APPLICATION AND CAN BE USED IN COLD AND WARM TEMPERATURES. A NITROGEN-BASED, NON-ZINC COMPOUND, DRUM,APPEARANCE: AMBER LIQUID. S PH: 9 - 11.5 SOLUBILITY IN WATER: SOLUBLE FLASH POINT (METHOD): >212F POUR POINT: < - 4 F,CONTAINER MUST BE PROPERLY LABELED WITH, VENDOR'S NAME, MANUFACTURER'S NAME, LOCATION, PRODUCTION DATE AND BATCH NUMBER. SAUDI ARAMCO WILL CARRY OUT PROPER SAMPLING AND TESTING AS NEEDED. PRODUCT MANUFACTURER AND OR SUPPLIER REQUIRED TO SUBMIT LAB CERTIFICATE OF ANALYSIS (COA) AND CERTIFICATE OF ORIGIN (COO). THE ORIGINAL MANUFACTURER, PRODUCT NAME, BATCH NUMBER, DATE OF PRODUCTION OF MATERIAL, EXPIRATION DATE AND COUNTRY OF ORIGIN BE PRINTED ON THE CONTAINER OR DRUM, WHETHER IT IS IBC TOTE, BIG BAGS AND/OR PAPER BAGS.#
Chemicals	1000857139	LUBRICANT - RADIAGREEN EME SALT	EXTREME ESTER-BASED ENVIRONMENTAL FRIENDLY LUBRICANT FOR WBM ADDITIVE DRILLING FLUID; LIQUID FORM, BLEND OF FATTY AMIDES ACID AND ESTERS, OR POLYOL ESTER OF FATTY ACIDS,FOR USED IN SOLIDS-FREE DRILL- IN FLUID MUD AND MONOVALENT BRINE TO REDUCE TORQUE AND DRAG IN HIGHLY TORTUOUS OR EXTENDED REACH WELLS. BLEND OF POYMERIZED FATTY AMIDES, ACIDS AND ESTERS OR,55 GAL (208 LITER) DRUM SHIPMENT OF PRODUCT SHALL CONFORM TO SAUDI ARAMCO EXPORT PACKING MANUAL. EXTREME ESTER-BASED FRIENDLY LUBRICANT: COMBUSTIBLE AMBER LIQUID BLEND OF POLYMERIZED FATTY AMIDE, ACID AND ESTER, OR POLYOL ESTER OF FATTY ACID USED IN SOLIDS-FREE DRILL-IN FLUIDS OR MONOVALENT BRINES TO REDUCE TORQUE AND DRAG IN HIGHLY TORTUOUS OR EXTENDED REACH WELLS. IT IS NON-DAMAGING TO PRODUCING ZONES, NON-TOXIC, ENVIRONMENTALLY FRIENDLY AND D15 HELPS PREVENT BIT BALLING AND DIFFERENTIAL STICKING. THE PRODUCT IS COMPATIBLE WITH SEAWATER AND MONOVALENT BRINE-BASED DRILLING FLUIDS. OTHER ASSOCIATED ELEMENTS MUST NOT BE HARMFUL TO PERSONNEL AND/OR ADVERSELY AFFECT FLUID PROPERTIES. CHEMICAL AND PHYSICAL SPECIFICATIONS:#APPEARANCE: YELLOW TO DARK AMBER. SWEET AND MILD ODOR SOLUBILITY IN WATER: INSOLUBLE IN WATER SPECIFIC GRAVITY AT THE RANGE BETWEEN 68°F (20°C): 0.95 - 1.05 FLASH POINT (PMCC): >212°F (100°C) IT WILL NOT GREASE OR PHASE OUT SAUDI ARAMCO RESERVES THE RIGHT TO COLLECT REPRESENTATIVE PRODUCT SAMPLES AND CONDUCT LABORATORY TESTS TO ENSURE COMPLIANCE WITH THE MATERIAL DESCRIPTION AND SPECIFICATIONS. PRODUCT MANUFACTURER AND OR SUPPLIER ARE REQUIRED TO SUBMIT LAB CERTIFICATE OF ANALYSIS FOR EVERY BATCH (COA) AND CERTIFICATE OF ORIGIN (COO). LABEL: PRODUCT NAME, BATCH NUMBER, PRODUCTION DATE, EXPIRATION DATE, SAP NUMBER AND COUNTRY OF ORIGIN, MANUFACTURER NAME AND CONTACT INFORMATION. HAZCOM ACCORDING TO THE MATERIAL SAFETY DATA SHEET (MSDS).#
Chemicals	1000875823	KLA-STOP	KLA-STOP SHALE INHIBITOR MI-SWACO ADDITIVE DRILLING FLUID; LIQUID FORM,POLYAMINE,FOR USED FOR SUPPRESSING CLAY SWELLING AND SHALE INHIBITION,POLYAMINE,55 GAL (208 LITER) DRUM SHIPMENT OF PRODUCTS MUST CONFORM TO SAUDI ARAMCO EXPORT PACKING MANUAL,- 120 KLA-STOP SHALE INHIBITOR M-I SWACO: LIQUID POLYAMINE USED FOR SUPPRESSING CLAY SWELLING AND SHALE INHIBITION IN POLYMER-BASED DRILLING AND DRILL-IN FLUIDS. IT PREVENTS WATER UPTAKE BY CLAYS, AND MAINTAINS CUTTINGS INTEGRITY. (KLA-SHIELD SYSTEM CONSISTS OF DRILZONE, IDCAP D, KLA-STOP AND POROSEAL). CHEMICAL AND PHYSICAL SPECIFICATIONS: APPEARANCE: CLEAR COLORLESS LIQUID SPECIFIC GRAVITY@ 68°F (20°C): 1.03 - 1.075 PH (5%IN DI WATER): 9.2 - 10.2 FLASH POINT (PMCC) : > 200°F (93°C) VISCOSITY CP @ 75°F (24°C) SAUDI ARAMCO RESERVES THE RIGHT TO COLLECT REPRESENTATIVE PRODUCT SAMPLES AND CONDUCT LABORATORY TESTS TO ENSURE COMPLIANCE WITH THE MATERIAL DESCRIPTION AND SPECIFICATIONS.PRODUCT MANUFACTURER AND OR SUPPLIER ARE REQUIRED TO SUBMIT LAB CERTIFICATE OF ANALYSIS FOR EVERY BATCH (COA) AND CERTIFICATE OF ORIGIN (COO).LABEL: PRODUCT NAME, BATCH NUMBER, PRODUCTION DATE, EXPIRATION DATE, SAP NUMBER AND COUNTRY OF ORIGIN, MANUFACTURER NAME AND CONTACT INFORMATION. HAZCOM ACCORDING TO THE MATERIAL SAFETY DATA SHEET (MSDS).
Chemicals	1000970719	ADDITIVE DRILLING FLUID, SOLID, FLUID	ADDITIVE DRILLING FLUID; SOLID FORM,FLUID LOSS CONTROL POLYMER.,FLUID LOSS CONTROL POLYMER,25 KG BAG,ECOTROL RD IS ONE OF THE COMPONENTS OF RHELIANT OBM SYSTEM BY MI-SWACO, REFER TO OTHER SAP : (SUREMUL, SUREWET, VG-PLUS, VERSAGEL HT, ONETROL HT, RHETHIK, MUL XT, BENTONE 42, VG SUPREME). IT IS A FILTRATION CONTROL AGENT FOR USE IN INVERT OIL EMULSION DRILLING FLUID SYSTEMS TO PROVIDE HTHP FLUID LOSS.THE ORIGINAL MANUFACTURER, PRODUCT NAME, BATCH NUMBER, DATE OF PRODUCTION OF MATERIAL, EXPIRATION DATE AND COUNTRY OF ORIGIN BE PRINTED ON THE CONTAINER OR DRUM, WHETHER IT IS IBC TOTE, BIG BAGS AND/OR PAPER BAGS. PRODUCT MANUFACTURER AND OR SUPPLIER REQUIRED TO SUBMIT LAB CERTIFICATE OF ANALYSIS (COA) AND CERTIFICATE OF ORIGINAL (COO) SAUDI ARAMCO'S PERSONNEL WILL CARRY OUT PROPER SAMPLING AND TESTING AS NEEDED.PHYSICAL PROPERTIES:APPEARANCE: WHITE , FREE-FLOWING POWDER, SPECIFIC GRAVITY: 1.03, SOLUBILITY IN WATER: NOT SOLUBLE.4 YEARS UNDER SHADED AREA.
Chemicals	1000022138	LOW TOXICITY BASED OIL	LOW TOXICITY BASED OIL ADDITIVE DRILLING FLUID; CLEAR LIQUID FORM,LOW TOXICITY,ODORLESS BASE OIL WITH VERY LOW AROMATIC CONTENT,FOR OIL-BASED DRILLING FLUIDS,LOW AROMATIC BASE OIL,BULK,SAES-A-103 PROTECTION OF THE MARINE ENVIRONMENT FROM 8 DECEMBER 2016, EPA 1654, ASTM D5292),.LOW TOXICITY BASE OIL: A LOW AROMATIC CLEAR ODORLESS LIQUID USED TO FORMULATE LOW TOXICITY OIL-BASED DRILLING AND COMPLETION FLUIDS. THIS BASE OIL MUST BE CHEMICALLY COMPATIBLE WITH THE WATER-EMULSIFYING AGENTS, ORGANOPHILIC CLAYS, ORGANOPHILIC LIGNITE AND CROSS-LINKED POLYMERS FILTRATION CONTROL AGENTS TO PRODUCE A STABLE INVERT EMULSION AND ALL OIL SYSTEMS WITH LOW FILTRATION RATES. CHEMICAL AND PHYSICAL SPECIFICATIONS: ODORLESS CLEAR LIQUID, FREE FROM SUSPENDED MATTER SPECIFIC GRAVITY @ 59°F (15°C): 0.70-0.79 (ASTM D1298) FLASH POINT: >185°F (85°C) (ASTM D 93) ANILINE POINT: >167°F (75°C) (ASTM D 611) TOTAL AROMATICS CONTENT: < 0.5% WT. (ASTM D 5292) POLYCYCLIC AROMATICS HYDROCARBONS CONTENT: < 0.1% WT BUT > 0.001% WT (EPA 1654 REV. A) OLEFINS CONTENT: NIL PPM BENZENE CONTENT: NIL PPM POLYNUCLEAR AROMATIC: NIL PPM MYSID SHRIMP NINETY-SIX HOUR BIOASSAY TEST LC50: > 100,000 PPM. SAUDI ARAMCO RESERVES THE RIGHT TO COLLECT REPRESENTATIVE PRODUCT SAMPLES AND CONDUCT LABORATORY TESTS TO ENSURE COMPLIANCE WITH THE MATERIAL DESCRIPTION AND SPECIFICATIONS. PRODUCT MANUFACTURER AND OR SUPPLIER ARE REQUIRED TO SUBMIT LAB CERTIFICATE OF ANALYSIS FOR EVERY BATCH (COA) AND CERTIFICATE OF ORIGIN (COO). LABEL: PRODUCT NAME, BATCH NUMBER, PRODUCTION DATE, EXPIRATION DATE, SAP NUMBER AND COUNTRY OF ORIGIN, MANUFACTURER NAME AND CONTACT INFORMATION. HAZCOM ACCORDING TO THE MATERIAL SAFETY DATA SHEET (MSDS).
Chemicals	1000758661	LC-LUBE Fine, 165 MICRON	LOW TOXICITY BASED OIL ADDITIVE DRILLING FLUID; CLEAR LIQUID FORM,LOW TOXICITY,ODORLESS BASE OIL WITH VERY LOW AROMATIC CONTENT,FOR OIL-BASED DRILLING FLUIDS,LOW AROMATIC BASE OIL,BULK,SAES-A-103 PROTECTION OF THE MARINE ENVIRONMENT FROM 8 DECEMBER 2016, EPA 1654, ASTM D5292),.LOW TOXICITY BASE OIL: A LOW AROMATIC CLEAR ODORLESS LIQUID USED TO FORMULATE LOW TOXICITY OIL-BASED DRILLING AND COMPLETION FLUIDS. THIS BASE OIL MUST BE CHEMICALLY COMPATIBLE WITH THE WATER-EMULSIFYING AGENTS, ORGANOPHILIC CLAYS, ORGANOPHILIC LIGNITE AND CROSS-LINKED POLYMERS FILTRATION CONTROL AGENTS TO PRODUCE A STABLE INVERT EMULSION AND ALL OIL SYSTEMS WITH LOW FILTRATION RATES. CHEMICAL AND PHYSICAL SPECIFICATIONS: ODORLESS CLEAR LIQUID, FREE FROM SUSPENDED MATTER SPECIFIC GRAVITY @ 59°F (15°C): 0.70-0.79 (ASTM D1298) FLASH POINT: >185°F (85°C) (ASTM D 93) ANILINE POINT: >167°F (75°C) (ASTM D 611) TOTAL AROMATICS CONTENT: < 0.5% WT. (ASTM D 5292) POLYCYCLIC AROMATICS HYDROCARBONS CONTENT: < 0.1% WT BUT > 0.001% WT (EPA 1654 REV. A) OLEFINS CONTENT: NIL PPM BENZENE CONTENT: NIL PPM POLYNUCLEAR AROMATIC: NIL PPM MYSID SHRIMP NINETY-SIX HOUR BIOASSAY TEST LC50: > 100,000 PPM. SAUDI ARAMCO RESERVES THE RIGHT TO COLLECT REPRESENTATIVE PRODUCT SAMPLES AND CONDUCT LABORATORY TESTS TO ENSURE COMPLIANCE WITH THE MATERIAL DESCRIPTION AND SPECIFICATIONS. PRODUCT MANUFACTURER AND OR SUPPLIER ARE REQUIRED TO SUBMIT LAB CERTIFICATE OF ANALYSIS FOR EVERY BATCH (COA) AND CERTIFICATE OF ORIGIN (COO). LABEL: PRODUCT NAME, BATCH NUMBER, PRODUCTION DATE, EXPIRATION DATE, SAP NUMBER AND COUNTRY OF ORIGIN, MANUFACTURER NAME AND CONTACT INFORMATION. HAZCOM ACCORDING TO THE MATERIAL SAFETY DATA SHEET (MSDS).
Chemicals	1000758663	MAX-SHIELD	MAXSHIELD-BAKER HUGHES PERFORMAX SYSTEM ADMXTURE DRILLING MUD; MILKY, WHITE LIQUID FORM,LATEX & PARTICULATES,FOR PREVENT LOS CIRCULATION, STUCK PIPE AND MECHANICAL LUBRICANT,STYRENE BUTADIENE LATEX AND PARTICULATE,55 GAL (208 LITER) DRUM SHIPMENT OF PRODUCT SHALL CONFORM TO SAUDI ARAMCO EXPORT PACKING MANUAL.MAX-SHIELD BAKER HUGHES PERFORMAX SYSTEM: WHITE LIQUID CONSIST OF MICRONIZED STYRENE BUTADIENE LATEX, 60% WT. AND SIZED PARTICLES USED AS A SEALING POLYMER IN PERFORMAX WATER-BASED DRILLING FLUID SYSTEM TO PREVENT LOST CIRCULATION. THE PRODUCT ALSO ACTS AS A MECHANICAL LUBRICANT TO REDUCE TORQUE AND DRAG. ITS DEFORMABLE SIZED PARTICLES EFFECTIVELY STRENGTHEN FRACTURED AND POROUS FORMATIONS WHEN PACKED TOGETHER UNDER COMPRESSION. THE CREATED FILTER CAKE ACTS AS A SEMI-PERMEABLE MEMBRANE, IMPROVE WELLBORE STABILITY AND REDUCE PORE PRESSURE TRANSMISSION, WHICH HELPS PREVENT STUCK PIPE WHEN DRILLING DEPLETED ZONES. THE PRODUCT IS CHEMICALLY INERT AND COMPATIBLE WITH ALL OTHER DRILLING FLUID ADDITIVES. ALL OTHER ASSOCIATED ELEMENTS MUST NOT BE HARMFUL TO PERSONNEL AND/OR ADVERSELY AFFECT FLUID PROPERTIES. CHEMICAL AND PHYSICAL SPECIFICATIONS APPEARANCE: MILKY, WHITE LIQUID WITH MILD ODOR LIQUID PH: 6 - 9 SPECIFIC GRAVITY @ 68°F (20°C): 1.05 FREEZING POINT: 32°F (0°C) PARTICLE SIZE BEFORE AGING: 1 MICRON OR LESS. SAUDI ARAMCO RESERVES THE RIGHT TO COLLECT REPRESENTATIVE PRODUCT SAMPLES AND CONDUCT LABORATORY TESTS TO ENSURE COMPLIANCE WITH THE MATERIAL DESCRIPTION AND SPECIFICATIONS. PRODUCT MANUFACTURER AND/OR SUPPLIER ARE REQUIRED TO SUBMIT LAB CERTIFICATE OF ANALYSIS (COA) AND CERTIFICATE OF ORIGIN (COO) FOR EVERY BATCH. LABEL: PRODUCT NAME, BATCH NUMBER, PRODUCTION DATE, SAP NUMBER, EXPIRATION DATE, AND COUNTRY OF ORIGIN, MANUFACTURER NAME AND CONTACT INFORMATION. HAZCOM ACCORDING TO THE MATERIAL SAFETY DATA SHEET (MSDS)
Chemicals	1000775557	STEEL SEAL 50	STEELSEAL 50 RESILIENT GRAPHITE-HALLIBURTON ADDITIVE DRILLING FLUID; POWDER FORM,GRAPHITE,FOR USED FOR WELLBORE STRENGTHENING,NON-MAGNETIC CARBON-BASED MATERIAL,50 LB. (22.7-KG) BAG THE CONSTRUCTION OF THE MULTI-WALLED PAPER BAG SHALL BE AS FOLLOWS: 1ST PLY - 75 LB. MIN. NATURAL KRAFT PAPER (INTERIOR PLY) 2ND PLY - 75 LB. MIN. NATURAL KRAFT PAPER. 3RD PLY - 80 LB. MIN. NATURAL KRAFT PAPER (EXTERIOR PLY) SHIPMENT OF PRODUCTS MUST CONFORM TO SAUDI ARAMCO EXPORT PACKING MANUAL,STEELSEAL 50 RESILIENT GRAPHITE-HALLIBURTON: BLACK ANGULAR POWDER OF PURE, NON-MAGNETIC CARBON-BASED MATERIAL. IT IS USED FOR WELLBORE STRENGTHENING BY BRIDGING AND PLUGGING ROCK PORES TO AVOID FLUID LOSSES AND REVENT STUCK PIPE. THE RESILIENT, ANGULAR PARTICULATE IS DESIGNED TO COMPRESS AND "MOLD" ITSELF INTO THE FRACTURE WITH THE INCREASE IN DOWNHOLE PRESSURES AND "REBOUNDS" AS THE DOWNHOLE PRESSURE FLUCTUATES THUS CONTINUE TO ISOLATE THE FRACTURE TIP UNDER CHANGING DIFFERENTIAL PRESSURES. IT IS EFFECTIVE IN AQUEOUS AND NON-AQUEOUS BASED FLUIDS AND IMPARTS LUBRICITY FOR WATER BASED FLUIDS. THIS PRODUCT SHOULD NOT BE USED AS CONVENTIONAL LCM TREATMENTS. CHEMICAL AND PHYSICAL SPECIFICATIONS: APPEARANCE: DARK GRAY, ODORLESS POWDER COMPOSITION (CARBONS): 99%WT. MINIMUM INSOLUBLE IN WATER HEAVY METALS IRON<10 PPM, NICKEL < 5 PPM, ANTIMONY < 0.05 PPM SPECIFIC GRAVITY @ 77°F (25°C): 1.88 RESILIENCY: 80 - 95% AT 10,000 PSI PARTICLE SIZE DISTRIBUTIONS (SIEVE ANALYSIS): MEDIAN PARTICLE SIZE: 48 - 55 MICRONS. THE PRODUCT DOESN'T ADVERSELY AFFECT THE RHEOLOGICAL PROPERTIES IN CONCENTRATIONS AS HIGH AS 100 LBS/BBL. SAUDI ARAMCO RESERVES THE RIGHT TO COLLECT REPRESENTATIVE PRODUCT SAMPLES AND CONDUCT LABORATORY TESTS TO ENSURE COMPLIANCE WITH THE MATERIAL DESCRIPTION AND SPECIFICATIONS. PRODUCT MANUFACTURER AND/OR SUPPLIER ARE REQUIRED TO SUBMIT LAB CERTIFICATE OF ANALYSIS (COA) AND CERTIFICATE OF ORIGIN (COO) FOR EVERY BATCH. LABEL: PRODUCT NAME, BATCH NUMBER, PRODUCTION DATE, SAP NUMBER, EXPIRATION DATE, AND COUNTRY OF ORIGIN, MANUFACTURER NAME AND CONTACT INFORMATION. HAZCOM ACCORDING TO THE MATERIAL SAFETY DATA SHEET (MSDS)
Chemicals	1000845427	THINNER MODIFIED TANNIN - DRILL THIN	ADDITIVE DRILLING FLUID; BROWN COLORED POWDER FORM,MODIFIED TANNIN COMPOUND,FOR USED AS MUD CONDITIONER PROVIDING RHEOLOGY CONTROL IN WATER BASE FLUIDS WITH MAXIMUM DEFLOCCULATING AND SHEAR STRENGTH REDUCTION AT LOW CONCENTRATIONS.,25 LB MULTIWALL PAPER BAGS,APPEARANCE: BROWN COLORED POWD,CONTAINER MUST BE PROPERLY LABELED WITH, VENDOR'S NAME, MANUFACTURER'S NAME, LOCATION, PRODUCTION DATE AND BATCH NUMBER. SAUDI ARAMCO WILL CARRY OUT PROPER SAMPLING AND TESTING AS NEEDED. PRODUCT MANUFACTURER AND OR SUPPLIER REQUIRED TO SUBMIT LAB CERTIFICATE OF ANALYSIS (COA) AND CERTIFICATE OF ORIGIN (COO). THE ORIGINAL MANUFACTURER, PRODUCT NAME, BATCH NUMBER, DATE OF PRODUCTION OF MATERIAL, EXPIRATION DATE AND COUNTRY OF ORIGIN BE PRINTED ON THE CONTAINER OR DRUM, WHETHER IT IS IBC TOTE, BIG BAGS AND/OR PAPER BAGS.#
Chemicals	1000757581	H2S SCAVENGER, POWDER	H2S SCAVENGER-ZINC-FREE IRON GLUCONATEADMXTURE DRILLING MUD; POWDER FORM,IRON GLUCONATE,FOR SCAVENGESHYDROGEN SULFIDE FROM DRILLING FLUIDS,IRON GLUCONATE,25 KG (55.1LBS.) PAIL OR SEALED BAG, VALVE/SPOUT TYPE, COMPLETELY SEALED,MOISTURE AND WATERPROOF. THE CONSTRUCTION OF THE MULTI-WALLED PAPER BAG (CONTAINER) SHALL BE AS FOLLOWS: 1ST PLY 75 LB. MIN.NATURAL KRAFT PAPER (INTERIOR PLY) 2ND PLY 75 LB. MIN. NATURALKRAFT PAPER 3RD PLY SEPARATE INNER BAG LINER. HIGH DENSITYORIENTED AND CROSS-LAMINATED INNER POLYETHYLENE RESIN LINER (TUBULAR SHAPE) WITH A MINIMUM WALL THICKNESS OF 0.1 MM. 4TH PLY 80 LB. MIN. NATURAL KRAFT PAPER (EXTERIOR PLY). SHIPMENT OF PRODUCT SHALL CONFORM TO SAUDI ARAMCO EXPORT PACKING MANUAL.,H2S SCAVENGER-ZINC-FREE IRON GLUCONATE: A HIGHLY WATER SOLUBLE GRANULAR POWDER OF IRON GLUCONATE WITH NO HAZARDOUS SUBSTANCES AND USED TO SCAVENGE HYDROGEN SULFIDE FROM WATER-BASED AND OIL-BASED DRILLING FLUIDS. CHEMICAL AND PHYSICAL SPECIFICATIONS: PURITY (IRON GLUCONATE): >90%WT. APPEARANCE: LIGHT YELLOW-GREEN GRANULAR POWDER PH (1% DI WATER SOLUTION): 4-5.5 SOLUBILITY: 100% SOLUBLE IN WATER ONE LB./BBL. OF PRODUCT REMOVES APPROXIMATELY 150-220 MG/LITER SULFIDES BULK DENSITY: 650-850 KG/M3 @ 68°F (20°C). SAUDI ARAMCO RESERVES THE RIGHT TO COLLECT REPRESENTATIVE PRODUCT SAMPLES AND CONDUCT LABORATORY TESTS TO ENSURE COMPLIANCE WITH THE MATERIAL DESCRIPTION ANDSPECIFICATIONS. PRODUCT MANUFACTURER AND/OR SUPPLIER ARE REQUIRED TO SUBMIT LAB CERTIFICATE OF ANALYSIS (COA) AND CERTIFICATE OF ORIGIN (COO) FOR EVERY BATCH. LABEL: PRODUCT NAME, BATCH NUMBER, PRODUCTION DATE, SAP NUMBER, EXPIRATION DATE, AND COUNTRY OF ORIGIN, MANUFACTURER NAME AND CONTACT INFORMATION. HAZCOM ACCORDING TO THE MATERIAL SAFETY DATA SHEET (MSDS).
Chemicals	1000022172	ORGANOPHILIC LIGNITE	ORGANOPHILIC LIGNITE ADDITIVE DRILLING FLUID; POWDER ORGANOPHILIC LIGNITE FORM,LEONARDITE OR LIGNITE MINERAL,FOR FILTRATION CONTROL ADDITIVE FOR OBM,LEONARDITE OR OXIDIZED LIGNITE,50 LBS. (22.7KG). MULTI- WALLED BAG,VALVE/SPOUT TYPE COMPLETELY SEALED: 1ST PLY 75 LB. MIN. NATURAL KRAFT PAPER (INTERIOR PLY) 2ND PLY 75 LB. MIN. NATURAL KRAFT PAPER. 3RD PLY 80 LB. MIN. NATURAL KRAFT PAPER (EXTERIOR PLY)WET SHIPMENT OF PRODUCT SHALL CONFORM TO SAUDI ARAMCO EXPORT PACKING MANUAL.,ORGANOPHILIC LIGNITE: LEONARDITE OR OXIDIZED LIGNITE PROCESSED TO BECOME OIL-DISPERSIBLE ORGANO-HUMATES, TO BE USED AS THE PRIMARY FILTRATION CONTROL ADDITIVE IN ANY OIL BASED DRILLING FLUID SYSTEMS, AND STABLE AT STATIC BOTTOM-HOLE TEMPERATURES UP TO 450°F (232°C). THE PRODUCT CONTAINS NO ASPHALT OR ASPHALT DERIVATIVES AND USED WITHOUT DETERMINATELY IMPACTING EMULSION STABILITY, SUSPENSION AND RHEOLOGICAL PROPERTIES. CHEMICAL AND PHYSICAL SPECIFICATIONS: DRY, GRAY TO BLACK POWDER. MOISTURE: 8% WT. MAXIMUM PASSING THROUGH 70 US MESH: 100%WT. INSOLUBLE IN WATER, DISPERSIBLE IN ORGANIC SOLVENTS IMPURITIES (SAND, LIME, GYPSUM, CLAY, ETC.): 2%WT. MAXIMUM SPECIFIC GRAVITY@ 68°F(20°C): 1.77 TO 1.80 NON-TOXIC, ENVIRONMENTALLY FRIENDLY MAINTAINS LOW FILTRATION RATES AND STABLE EMULSION. SAUDI ARAMCO RESERVES THE RIGHT TO COLLECT REPRESENTATIVE PRODUCT SAMPLES AND CONDUCT LABORATORY TESTS TO ENSURE COMPLIANCE WITH THE MATERIAL DESCRIPTION AND SPECIFICATIONS. PRODUCT MANUFACTURER AND/OR SUPPLIER ARE REQUIRED TO SUBMIT LAB CERTIFICATE OF ANALYSIS (COA) AND CERTIFICATE OF ORIGIN (COO) FOR EVERY BATCH. LABEL: PRODUCT NAME, BATCH NUMBER, PRODUCTION DATE, SAP NUMBER,EXPIRATION DATE, AND COUNTRY OF ORIGIN, MANUFACTURER NAME AND CONTACT INFORMATION. HAZCOM ACCORDING TO THE MATERIAL SAFETY DATA SHEET (MSDS).

Sourcing List			
Commodity	Material	Description	Long Description
Chemicals	1000022173	SECONDARY EMULSIFIER	SECONDARY EMULSIFIER FOR INVERTED EMULSION ADDITIVE DRILLING FLUID; LIQUID BLEND OF FATTY ACID , AMIDE AND METHANOL FORM,BLEND OF POLYAMINATED FATTY ACID & PARTIAL AMIDE OF POLYAMINE WITH METHANOL,FOR SECONDARY EMULSIFIER AND WETTING AGENT FOR INVERTED EMULSION DRILLING FLUIDS,FATTY ACID, AMIDE AND METHANOL,55 GAL (208 LITER) DRUM SHIPMENT OF PRODUCT SHALL CONFORM TO SAUDI ARAMCO EXPORT PACKING MANUAL,API RECOMMENDED PRACTICE 13B-2 FIFTH EDITION, APRIL 2014,SECONDARY EMULSIFIER FOR INVERTED EMULSION: A STABLE POURABLE BLEND OF POLYAMINATED FATTY ACID AND PARTIAL AMIDE OF POLYAMINE WITH METHANOL. IT IS USED AS THE SECONDARY EMULSIFIER AND WETTING AGENT TO FORMULATE STABLE WATER-IN-OIL EMULSION (INVERTED EMULSION) DRILLING FLUIDS. THE PRODUCT IS NONTOXIC AND WILL NOT CONTAIN VEGETABLE OIL OR ASPHALTIC - TYPE MATERIAL, CHEMICAL AND PHYSICAL SPECIFICATIONS: NON-TOXIC, ENVIRONMENTALLY FRIENDLY SPECIFIC GRAVITY @ 77°F (25°C): 0.92 - 0.96 FLASH POINT (PMCC): >149°F (65°C) ACTIVE INGREDIENTS: FATTY ACID & AMINE DERIVATIVES: 70WT.% MINIMUM ASPHALTIC-TYPE MATERIAL: NONE ACID NUMBER, MG KOH/G: 45 - 50. TOTAL AMINE, MG KOH/G: 8 - 10 SAUDI ARAMCO RESERVES THE RIGHT TO COLLECT REPRESENTATIVE PRODUCT SAMPLES AND CONDUCT LABORATORY TESTS TO ENSURE COMPLIANCE WITH THE MATERIAL DESCRIPTION AND SPECIFICATIONS. MANUFACTURER AND OR SUPPLIER ARE REQUIRED TO SUBMIT LAB CERTIFICATE OF ANALYSIS FOR EVERY BATCH (COA) AND CERTIFICATE OF ORIGIN (COO). LABEL: PRODUCT NAME, BATCH NUMBER, PRODUCTION DATE, EXPIRATION DATE, SAP NUMBER AND COUNTRY OF ORIGIN, THE ORIGINAL MANUFACTURER NAME AND CONTACT INFORMATION. HAZCOM ACCORDING TO THE MATERIAL SAFETY DATA SHEET (MSDS).
Chemicals	1000022175	PRIMARY EMULSIFIER	PRIMARY EMULSIFIER FOR INVERTED EMULSION DDITIVE DRILLING FLUID; CLEAR FORM,BLEND OF OXIDIZED TALL OIL AND POLYAMINATED FATTY ACID,FOR PRIMARY EMULSIFIER FOR INVERTED EMULSION DRILLING FLUIDS,TALL OIL AND POLYAMINATED FATTY ACID,55 GAL (208 L) DRUM SHIPMENT OF PRODUCT SHALL CONFORM TO SAUDI ARAMCO EXPORT PACKING MANUAL,API RECOMMENDED PRACTICE 13B-2 FIFTH EDITION, APRIL 2014,PRIMARY EMULSIFIER FOR INVERTED EMULSION: IS A STABLE POURABLE BLEND OF OXIDIZED TALL OIL AND POLYAMINATED FATTY ACID. IT IS USED AS THE PRIMARY EMULSIFIER AND WETTING AGENT TO FORMULATE STABLE WATER OR BRINE-IN-OIL EMULSION (INVERTED EMULSION) DRILLING FLUIDS. THE PRODUCT IS NONTOXIC AND WILL NOT CONTAIN VEGETABLE OIL, OR ASPHALTIC-TYPE MATERIAL. CHEMICAL AND PHYSICAL SPECIFICATIONS NON-TOXIC, ENVIRONMENTALLY FRIENDLY SPECIFIC GRAVITY @ 77°F (25°C): 0.92 - 0.96 FLASH POINT (PMCC): >149°F (65°C) ACTIVE INGREDIENTS: OXIDIZED TALL OIL & FATTY ACID 70% WT. MINIMUM ASPHALTIC-TYPE MATERIAL: NONE ACID NUMBER, MG KOH/G: 80 - 85 SAUDI ARAMCO RESERVES THE RIGHT TO COLLECT REPRESENTATIVE PRODUCT SAMPLES AND CONDUCT LABORATORY TESTS TO ENSURE COMPLIANCE WITH THE MATERIAL DESCRIPTION AND SPECIFICATIONS. PRODUCT MANUFACTURER AND OR SUPPLIER ARE REQUIRED TO SUBMIT LAB CERTIFICATE OF ANALYSIS FOR EVERY BATCH (COA) AND CERTIFICATE OF ORIGIN (COO). LABEL: PRODUCT NAME, BATCH NUMBER, PRODUCTION DATE, EXPIRATION DATE, SAP NUMBER AND COUNTRY OF ORIGIN, MANUFACTURER NAME AND CONTACT INFORMATION. HAZCOM ACCORDING TO THE MATERIAL SAFETY DATA SHEET (MSDS).
Chemicals	1000022174	ORGANOPHILIC CLAY - 400F	ORGANOPHILIC CLAY ADDITIVE DRILLING FLUID; WHITE, DRY, FREE FLOWING POWDER, FREE OF LUMPS FORM,ORGANOPHILIC CLAY,FOR IMPARTS VISCOSITY AND SUSPENSION PROPERTIES TO ANY OBM,MODIFIED BENTONITE CLAY WITH QUATERNARY AMINES,50 LBS. (22.7 KG). MULTI-WALLED BAG,VALVE /SPOUT TYPE COMPLETELY SEALED: 1STPLY 75 LB. MIN. NATURAL KRAFTPAPER (INTERIOR PLY) 2ND PLY 75 LB. MIN. NATURAL KRAFT PAPER. 3RDPLY 80 LB. MIN. NATURAL KRAFT PAPER (EXTERIOR PLY) WET SHIPMENT OF PRODUCT SHALL CONFORM TO SAUDI ARAMCO EXPORT PACKING MANUAL,,ORGANOPHILIC CLAY: OIL-BASED MUD COMPONENTS.IT IS MODIFIED BENTONITE (MONTMORILLONITE) CLAY WITH QUATERNARY AMINES USED TO IMPART VISCOSITY AND SUSPENSION PROPERTIES TO ANY OIL-BASED DRILLING AND COMPLETION FLUIDS. CHEMICAL AND PHYSICALSPECIFICATIONS: DRY, OFF-WHITE TO TAN OR GRAY POWDER. MOISTURE: 5% WT. MAXIMUM PASSING THROUGH 70 US MESH (210 MICRONS): 100%WT. INSOLUBLE IN WATER, DISPERSIBLE IN ORGANIC SOLVENTS DECOMPOSITION TEMP: >200°F (93°C), NON-FLAMMABLE SPECIFIC GRAVITY @ 68°F (20°C): 1.57 TO 1.70 NON-TOXIC, ENVIRONMENTALLY FRIENDLY MAINTAIN LONG TERM SUSPENSION. SAUDI ARAMCO RESERVES THE RIGHT TO COLLECT REPRESENTATIVE PRODUCT SAMPLES AND CONDUCT LABORATORY TESTS TO ENSURE COMPLIANCE WITH THE MATERIAL DESCRIPTION AND SPECIFICATIONS. PRODUCT MANUFACTURER AND/OR SUPPLIER ARE REQUIRED TO SUBMIT LAB CERTIFICATE OF ANALYSIS (COA) AND CERTIFICATE OF ORIGIN (COO) FOR EVERY BATCH. LABEL: PRODUCT NAME, BATCH NUMBER, PRODUCTION DATE, SAP NUMBER, EXPIRATION DATE, AND COUNTRY OF ORIGIN, MANUFACTURER NAME AND CONTACT INFORMATION. HAZCOM ACCORDING TO THE MATERIAL SAFETY DATA SHEET (MSDS).
Chemicals	1000827162	LIGNITE	LIGNITE-FILTRATION CONTROL AGENT ADDITIVE DRILLING FLUID; POWDER FORM,LIGNITE,FOR USED FOR FILTRATION AND RHEOLOGY CONTROL OF WATER-BASED MUD,BLACK POWDER NATURALLY OCCURRING LIGNITE,50 LBS. (22.7 KG) BAG. SHIPMENT OF PRODUCTS MUST CONFORM TO SAUDI ARAMCO EXPORT PACKING MANUAL,,LIGNITE FILTRATION CONTROL AGENT: BLACK POWDER NATURALLY OCCURRING LIGNITE USED FOR FILTRATION AND RHEOLOGY CONTROL OF WATER-BASED DRILLING FLUIDS. IT FUNCTIONS WELL IN HIGH PH ENVIRONMENTS AND IS TOLERANT OF COMMON MUD CONTAMINANTS SUCH AS CALCIUM UP TO 1000 PPM. IT IS SUITABLE FOR USE IN LIME AND GYPSUM MUD SYSTEMS AT TEMPERATURES EXCEEDING 400°F (204°C). OTHER ASSOCIATED ELEMENTS MUST NOT BE HARMFUL TO PERSONNEL AND/OR ADVERSELY AFFECT FLUID PROPERTIES. CHEMICAL AND PHYSICAL SPECIFICATIONS: APPEARANCE: BLACK POWDER SOLUBILITY: REQUIRES AN ALKALINE WATER TO SOLUBILIZE. PH 9.0 OR ABOVE SPECIFIC GRAVITY @ 68°F (20°C): 1.6 - 1.8 BULK DENSITY @ 20°C: 40 - 52 LBS./FT3 CRYSTALLINE SILICA, QUARTZ (SIO2): 5%WT. MAXIMUM SAUDI ARAMCO RESERVES THE RIGHT TO COLLECT REPRESENTATIVE PRODUCT SAMPLES AND CONDUCT LABORATORY TESTS TO ENSURE COMPLIANCE WITH THE MATERIAL DESCRIPTION AND SPECIFICATIONS. PRODUCT MANUFACTURER AND/OR SUPPLIER ARE REQUIRED TO SUBMIT LAB CERTIFICATE OF ANALYSIS (COA) AND CERTIFICATE OF ORIGIN (COO) FOR EVERY BATCH. LABEL: PRODUCT NAME, BATCH NUMBER, PRODUCTION DATE, SAP NUMBER, EXPIRATION DATE, AND COUNTRY OF ORIGIN, MANUFACTURER NAME AND CONTACT INFORMATION. HAZCOM ACCORDING TO THE MATERIAL SAFETY DATA SHEET (MSDS).
Chemicals	1000757582	ACID SOLUBLE FIBER	ACID SOLUBLE SPUN MINERAL FIBER LOSS CIRCULATION MATERIAL ADDITIVE DRILLING FLUID; FIBER AND POWDER FORM,SPUN MINERALFIBER,FOR COMBATING LOST CIRCULATION BY PLUGGING VUGULAR AND FRACTURED FORMATIONS DURING DRILLING AND WORKOVER OPERATIONS,SPUN CRYSTALLINE SILICA MINERAL FIBER OR POWDER,30LB. (13.61KG) SEALED BAG, THE CONSTRUCTION OF THE MULTI-WALLED PAPER BAG SHALL BE AS FOLLOWS: 1ST PLY 30 LB. MIN. NATURAL KRAFT PAPER (INTERIOR PLY) 2ND PLY 30 LB. MIN. NATURAL KRAFT PAPER 3RDPLY SEPARATE INNER BAG LINER, HIGH DENSITY ORIENTED AND CROSS-LAMINATED INNER POLYETHYLENE RESIN LINER (TUBULAR SHAPE) WITH A MINIMUM WALL THICKNESS OF 0.1 MM. 4TH PLY 30 LB. MIN. NATURAL KRAFT PAPER. 5TH PLY 30 LB. MIN. NATURAL KRAFT PAPER WET STRENGTH (EXTERIOR PLY) THE BAG MUST BE VALVE/SPOUT TYPE, COMPLETELY SEALED, MOISTURE AND WATERPROOF. SHIPMENT OF PRODUCT SHALL CONFORM TO SAUDI ARAMCO EXPORT PACKING MANUAL,ACID SOLUBLE SPUN MINERAL FIBER LOST CIRCULATION MATERIAL: A SPECIALLY PROCESSED EXTRUSION OF SPUN CRYSTALLINE SILICA MINERAL FIBER AND POWDER, USED FOR COMBATING LOST CIRCULATION BY PLUGGING VUGULAR AND FRACTURED SUBSURFACE FORMATIONS DURING DRILLING OR WORKOVER OPERATIONS. THE PRODUCT IS 100% INORGANIC, NON-FERMENTING, NON-CORROSIVE, NON-TOXIC, CONTAINS NO ASBESTOS, AND TEMPERATURE STABLE. IT IS COMPATIBLE WITH OIL-BASED AND WATER-BASED FLUID SYSTEMS. CHEMICAL AND PHYSICAL SPECIFICATIONS: APPEARANCE: WHITE TO GRAY COLOR, ODORLESS INORGANIC AND NON-FERMENTING INSOLUBLE IN WATER, SOLUBILITY IN 15% HCL: 95% MINIMUM PH (1% AQUEOUS SOLUTION): 7-8 BULK DENSITY @ 68°F (20°C): 12-26 LBS./GALLON. SAUDI ARAMCO RESERVES THE RIGHT TO COLLECT REPRESENTATIVE PRODUCT SAMPLES AND CONDUCT LABORATORY TESTS TO ENSURE COMPLIANCE WITH THE MATERIAL DESCRIPTION AND SPECIFICATIONS. PRODUCT MANUFACTURER AND/OR SUPPLIER ARE REQUIRED TO SUBMIT LAB CERTIFICATE OF ANALYSIS (COA) AND CERTIFICATE OF ORIGIN (COO) FOR EVERY BATCH. LABEL: PRODUCT NAME, BATCH NUMBER, PRODUCTION DATE, SAP NUMBER, EXPIRATION DATE, AND COUNTRY OF ORIGIN, MANUFACTURER NAME AND CONTACT INFORMATION. HAZCOM ACCORDING TO THE MATERIAL SAFETY DATA SHEET (MSDS).
Chemicals	1000022135	AMINE CORROSION INHIBITOR	HIGH TEMPERATURE CORROSION INHIBITOR ADDITIVE DRILLING FLUID; LIQUID FORM,CORROSION INHIBITOR FOR HIGH TEMPERATURE,FOR ALLEVIATE FRESH, BRACKISH OR BRINE PACKER FLUIDS CORROSION,LIQUID AMINES AND AMIDE,55 GAL (208 LITER)DRUM SHIPMENT OF PRODUCT SHALL CONFORM TO SAUDI ARAMCO EXPORT PACKING MANUAL,,HIGH TEMPERATURE CORROSION INHIBITOR: A BLEND OF AMINES AND IMIDAZOLINE AMIDE, SOLUBLE IN OIL AND DISPERSIBLE IN WATER USED TO ALLEVIATE CORROSION IN FRESH, BRACKISH OR BRINE PACKER FLUID AT HIGH WELLBORE TEMPERATURES UP TO 400°F.IMIDAZOLINE ADSORPTION FORMS A CHEMICAL FILM ON IRON AND STEEL SURFACES AND DEVELOPS A PASSIVATION LAYER THAT PROVIDES CORROSION PROTECTION IN SOUR H2S, SWEET CO2 AND OXYGEN CORROSION ENVIRONMENT ENCOUNTERED IN OIL AND GAS WELLS. CHEMICAL AND PHYSICAL SPECIFICATIONS: DARK AMBER LIQUID OIL SOLUBLE AND WATER DISPERSIBLE SPECIFIC GRAVITY @ 59°F (15°C): 0.8 - 0.9 FLASH POINT (PMCC): >136.4°F (58°C) DILUTED SOLUTION WITH DI WATER (3:1) AT 68°F (20°C): 6 - 7. SAUDI ARAMCO RESERVES THE RIGHT TO COLLECT REPRESENTATIVE PRODUCT SAMPLES AND CONDUCT LABORATORY TESTS TO ENSURE COMPLIANCE WITH THE MATERIAL DESCRIPTION AND SPECIFICATIONS. PRODUCT MANUFACTURER AND/OR SUPPLIER ARE REQUIRED TO SUBMIT LAB CERTIFICATE OF ANALYSIS (COA) AND CERTIFICATE OF ORIGIN (COO) FOR EVERY BATCH. LABEL: PRODUCT NAME, BATCH NUMBER, PRODUCTION DATE, SAP NUMBER, EXPIRATION DATE, AND COUNTRY OF ORIGIN, MANUFACTURER NAME AND CONTACT INFORMATION. HAZCOM ACCORDING TO THE MATERIAL SAFETY DATA SHEET (MSDS).
Chemicals	1000022134	OIL SOLUBLE CORROSION INHIBITOR	DRILLING FLUID CORROSION INHIBITOR ADDITIVE DRILLING FLUID; LIQUID FORM,CORROSION INHIBITOR,FOR USED TO ALLEVIATE DRILLING FLUIDS CORROSION,LIQUID AMINE,55 GAL (208 LITER) DRUM SHIPMENT OF PRODUCT SHALL CONFORM TO SAUDI ARAMCO EXPORT PACKING MANUAL,,DRILLING FLUID CORROSION INHIBITOR: CATIONIC FILMING POLYAMINE OF A MODIFIED FATTY ACID SOLUBLE IN OIL AND DISPERSIBLE IN WATER USED TO ALLEVIATE DRILLING FLUIDS CORROSION. THE ADDITIVE COATS THE METAL SURFACEWITH A PASSIVATION LAYER TO HELP PROTECT IT FROM HYDROGEN SULFIDE, CARBON DIOXIDE, AND OXYGEN CORROSION. CHEMICAL AND PHYSICAL SPECIFICATIONS: DARK BROWN LIQUID OIL SOLUBLE AND WATER DISPERSIBLE SPECIFIC GRAVITY @ 68°F (20°C): 0.90 - 0.92 FLASH POINT (PMCC): >140°F (60°C) PH (1% SOLUTION IN DI WATER) AT 68°F (20°C): 6 - 8. SAUDI ARAMCO RESERVES THE RIGHT TO COLLECT REPRESENTATIVE PRODUCT SAMPLES AND CONDUCT LABORATORY TESTS TO ENSURE COMPLIANCE WITH THE MATERIAL DESCRIPTION AND SPECIFICATIONS. PRODUCT MANUFACTURER AND OR SUPPLIER ARE REQUIRED TO SUBMIT LAB CERTIFICATE OF ANALYSIS FOR EVERY BATCH (COA) AND CERTIFICATE OF ORIGIN (COO). LABEL: PRODUCT NAME, BATCH NUMBER, PRODUCTION DATE, EXPIRATION DATE, SAP NUMBER AND COUNTRY OF ORIGIN, MANUFACTURER NAME AND CONTACT INFORMATION. HAZCOM ACCORDING TO THE MATERIAL SAFETY DATA SHEET (MSDS).
Chemicals	1000022136	WATER SOLUBLE CORROSION INHIBITOR	CORROSION INHIBITOR-MICROBIOSTAT ADDITIVE DRILLING FLUID; LIQUID FORM,CORROSION INHIBITOR AND BIOCID,FOR USED AS A PACKER FLUID CORROSION INHIBITOR,LIQUID AMINE WITH METHANOL MICROBIOSTAT,55 GAL (208 LITER) DRUM SHIPMENT OF PRODUCT SHALL CONFORM TO SAUDI ARAMCO EXPORT PACKING MANUAL,,CORROSION INHIBITOR-MICROBIOSTAT: A COMBINED LIQUID BIOCID AND CORROSION INHIBITOR, CATIONIC, WATER SOLUBLE, HETEROCYCLIC AMINE BLENDED WITH METHANOL MICROBIOSTAT TO CONTROL AEROBIC AND ANAEROBIC BACTERIA GROWTH. IT IS USED AS A PACKER FLUID CORROSION INHIBITOR TO CONTROL GENERAL CORROSION ATTACK ON CASING, TUBING AND DOWNHOLE TOOLS IN CONTACT WITH CLEAR AND VISCOSIFIED COMPLETION BRINES. CHEMICAL AND PHYSICAL SPECIFICATIONS: LIGHT (OR PALE) COLORED LIQUID WATER SOLUBLE SPECIFIC GRAVITY @ 68°F (20°C): 0.98 - 1.07 PH (CONCENTRATED SOLUTION) @ 68°F (20°C): 4 - 6 SAUDI ARAMCO RESERVES THE RIGHT TO COLLECT REPRESENTATIVE PRODUCT SAMPLES AND CONDUCT LABORATORY TESTS TO ENSURE COMPLIANCE WITH THE MATERIAL DESCRIPTION AND SPECIFICATIONS. PRODUCT MANUFACTURER AND/OR SUPPLIER ARE REQUIRED TO SUBMIT LAB CERTIFICATE OF ANALYSIS (COA) AND CERTIFICATE OF ORIGIN (COO) FOR EVERY BATCH. LABEL: PRODUCT NAME, BATCH NUMBER, PRODUCTION DATE, SAP NUMBER, EXPIRATION DATE, AND COUNTRY OF ORIGIN, MANUFACTURER NAME AND CONTACT INFORMATION. HAZCOM ACCORDING TO THE MATERIAL SAFETY DATA SHEET (MSDS).
Chemicals	1000021559	HYDRATED CALCIUM SULFATE - GYPSUM	CALCIUM SULFATE (GYPSUM) ADDITIVE DRILLING FLUID; DRY, FREE FLOWING FINE WHITISH POWDER FORM,HYDRATED CALCIUM SULFATE,FOR USED AS A SOURCE OF CALCIUM IONS TO TREAT CARBONATE CONTAMINATION IN HIGH PH MUDS AND TO AVOID HOLE ENLARGEMENT WHEN ANHYDRITE IS DRILLED,25 KG (55.1 LBS.) MULTI-WALLED PAPER VALVE/SPOUTTYPE) SACK, COMPLETELY SEALED. THE CONSTRUCTION OF THE MULTI-WALLED PAPER BAG SHALL BE AS FOLLOWS: 1ST PLY 75 LB. MIN. NATURAL KRAFT PAPER (INTERIOR PLY) 2ND PLY 75 LB. MIN. NATURAL KRAFT PAPER. 3RD PLY 80 LB. MIN. NATURAL KRAFT PAPER (EXTERIOR PLY) SHIPMENT OF PRODUCTS MUST CONFORM TO SAUDI ARAMCO EXPORT PACKING MANUAL,,CALCIUM SULFATE (GYPSUM): USED AS A SOURCE OF CALCIUM IONS IN WATER-BASED MUD TO TREAT CARBONATE CONTAMINATION IN HIGH PH MUDS, AND TO AVOID WELLBORE ENLARGEMENT WHILE DRILLING ANHYDRITE FORMATION CHEMICAL AND PHYSICAL SPECIFICATIONS PURITY:95%WT. MINIMUM CALCIUM SULFATE (CAS04.½H2O) OR (CAS04.2H2O) SPECIFIC GRAVITY: 2.3 MINIMUM PARTICLE SIZE: 100% PASS THROUGH 100 US MESH DRY SCREEN CALCIUM CARBONATE,CAC03: 1.5%WT. MAXIMUM CLAYS: 1.5% WT. MAXIMUM. SAUDI ARAMCO RESERVES THE RIGHT TO COLLECT REPRESENTATIVE PRODUCT SAMPLES AND CONDUCT LABORATORY TESTS TO ENSURE COMPLIANCE WITH THE MATERIAL DESCRIPTION AND SPECIFICATIONS. PRODUCT MANUFACTURER AND/OR SUPPLIER ARE REQUIRED TO SUBMIT LAB CERTIFICATE OF ANALYSIS (COA) AND CERTIFICATE OF ORIGIN (COO) FOR EVERY BATCH. LABEL: PRODUCT NAME, BATCH NUMBER, PRODUCTION DATE, SAP NUMBER, EXPIRATION DATE, AND COUNTRY OF ORIGIN, MANUFACTURER NAME AND CONTACT INFORMATION. HAZCOM ACCORDING TO THE MATERIAL SAFETY DATA SHEET (MSDS).#
Chemicals	1001043564	Filtration Control	OBM LIQUID FILTRATION CONTROL ADDITIVE DRILLING FLUID; LIQUID FORM,BLEND,FOR LIQUID FLUID LOSS REDUCER FOR OIL BASED MUDS,OBM LIQUID FILTRATION CONTROL,55 GAL DRUM. SHIPMENT OF PRODUCTS MUST CONFORM TO SAUDI ARAMCO EXPORT PACKING MANUAL,ASTM D93 FOR PMCC,LIQUID FLUID LOSS CONTROL ADDITIVE FOR OIL BASED DRILLING FLUIDS. EFFECTIVE IN ALL TYPES OF BASE OILS INCLUDING DIESEL, SYNTHETIC AND MINERAL OILS. IT IS DESIGNED TO PROVIDE HIGH-TEMPERATURE, HIGH-PRESSURE (HTHP) FILTRATION CONTROL AS AN ALTERNATIVE TO ORGANOPHILIC LIGNITE, SULFONATED ASPHALT, AND GILSONITE. THE CHEMICAL SHOULD NOT CAUSE ADVERSE EFFECT ON THE MUD PROPERTIES INCLUDING THE ELECTRICAL STABILITY. IT SHOULD BE STABLE AND EFFECTIVE AT HIGH TEMPERATURES UP TO 350 DEGF. CHEMICAL AND PHYSICAL SPECIFICATIONS: SPECIFIC GRAVITY @ 68 DEGF (20 DEGC): 0.95-1.1 FLASH POINT (PMCC): > 158 DEGF (70 DEGC). SAUDI ARAMCO RESERVES THE RIGHT TO COLLECT REPRESENTATIVE PRODUCT SAMPLES AND CONDUCT LABORATORY TESTS TO ENSURE COMPLIANCE WITH THE MATERIAL DESCRIPTION AND SPECIFICATIONS. PRODUCT MANUFACTURER AND OR SUPPLIER ARE REQUIRED TO SUBMIT LAB CERTIFICATE OF ANALYSIS FOR EVERY BATCH (COA) AND CERTIFICATE OF ORIGIN (COO). LABEL: PRODUCT NAME, BATCH NUMBER, PRODUCTION DATE, EXPIRATION DATE, SAP NUMBER AND COUNTRY OF ORIGIN, MANUFACTURER NAME AND CONTACT INFORMATION. HAZCOM ACCORDING TO THE MATERIAL SAFETY DATA SHEET (MSDS).

**Sourcing List**

Commodity	Material	Description	Long Description
Chemicals	1000888050	THERMASET Glass Filler	GLASS FILLER WEIGHTING MATERIAL-WELLCEM ADDITIVE DRILLING FLUID; POWDER FORM, FOR IT IS USED AS WEIGHTING MATERIAL IN THERMASET LCM SYSTEM. PULVERIZED PWDER GLASS BEADS, BIG BAG [500 KG] REFER TO SAP NUMBER: 1000840600 FOR DISPOSABLE SUPER SACKS SPECIFICATION. SUPPLIERS ARE REQUIRED TO WEIGHT THE TRUCKS BEFORE AND AFTER LOADING AND SUBMIT TO MATERIAL SUPPLY AN OFFICIAL TICKET PRINT DATA STATING: DATE AND TIME COMPANY AND ADDRESS, TRUCK IDENTITY NUMBER, MATERIAL NAME, TRUCK WEIGHT BEFORE AND AFTER LOADING. SHIPMENT OF PRODUCT SHALL CONFORM TO SAUDI ARAMCO EXPORT PACKING MANUAL, GLASS FILLER WEIGHTING MATERIAL: PULVERIZED POWDER GLASS BEADS WEIGHTING MATERIAL. IT IS CHEMICALLY INERT, TEMPERATURES STABLE UP TO 1112°F (600°C), USED IN LOW DENSITY HERMASET SYSTEM. THERMASET SYSTEM CONSISTS OF THERMASET 100-2 SAP#1000888051 OR 55-4 SAP#1000888052, AEROSOL 200 SAP#1000888053, NORPOL PEROXIDE 40 (C140) SAP#1000888054, DIBENZOYL PEROXIDE (C165) SAP#1000888055, MICROMAX SAP#1000845612 FILLER AND GLASS FILLER SAP#1000888050. CHEMICAL AND PHYSICAL SPECIFICATIONS: APPEARANCE: SOLID CLEAR ODORLESS POWDER GLASS BEADS SPECIFIC GRAVITY @ 68°F (20°C): 1.00. SAUDI ARAMCO RESERVES THE RIGHT TO COLLECT REPRESENTATIVE PRODUCT SAMPLES AND CONDUCT LABORATORY TESTS TO ENSURE COMPLIANCE WITH THE MATERIAL DESCRIPTION AND SPECIFICATIONS. PRODUCT MANUFACTURER AND OR SUPPLIER REQUIRED TO SUBMIT LAB CERTIFICATE OF ANALYSIS (COA) AND CERTIFICATE OF ORIGIN (COO). LABEL: PRODUCT NAME, BATCH NUMBER, PRODUCTION DATE, EXPIRATION DATE, SAP NUMBER AND COUNTRY OF ORIGIN, MANUFACTURER NAME AND CONTACT INFORMATION. HAZCOM ACCORDING TO THE MATERIAL SAFETY DATA SHEET (MSDS).
Chemicals	6000016483	MUD SYSTEM	ADMIXTURE DRILLING MUD; DRILLING FLUIDS SYSTEM OR PRODUCT USED AS WATER BASED MUD(WBM) OR OIL BASED MUD (OBM) OR FOR SPECIAL APPLICATION TO DRILL THE RESERVOIR OR NON-RESERVOIR HOLE SECTIONS. EXAMPLES NON-CONVENTIONAL LCM, HIGH OVER BALANCE MUD SYSTEM, SHALE INHIBITION MUD SYSTEM, RESERVOIR DRILL-IN FLUID(RDF), FILTER CAKE REMOVAL SYSTEM, HIGH PERFORMANCE WATER BASE MUD (HPWBM), HIGH PERFORMANCE OIL BASE MUD (HPOBM), SPACER CLEANING SYSTEM
Chemicals	1000022138	LOW TOXICITY BASED OIL	LOW TOXICITY BASED OIL ADDITIVE DRILLING FLUID; CLEAR LIQUID FORM, LOW TOXICITY, ODORLESS BASE OIL WITH VERY LOW AROMATIC CONTENT, FOR OIL-BASED DRILLING FLUIDS, LOW AROMATIC BASE OIL, BULK, SAES-A-103 PROTECTION OF THE MARINE ENVIRONMENT FROM 8 DECEMBER 2016, EPA 1654, ASTM D5292, LOW TOXICITY BASE OIL: A LOW AROMATIC CLEAR ODORLESS LIQUID USED TO FORMULATE LOW TOXICITY OIL-BASED DRILLING AND COMPLETION FLUIDS. THIS BASE OIL MUST BE CHEMICALLY COMPATIBLE WITH THE WATER-EMULSIFYING AGENTS, ORGANOPHILIC CLAYS, ORGANOPHILIC LIGNITE AND CROSS-LINKED POLYMERS FILTRATION CONTROL AGENTS TO PRODUCE A STABLE INVERT EMULSION AND ALL OIL SYSTEMS WITH LOW FILTRATION RATES. CHEMICAL AND PHYSICAL SPECIFICATIONS: ODORLESS CLEAR LIQUID, FREE FROM SUSPENDED MATTER SPECIFIC GRAVITY @ 59°F (15°C): 0.70-0.79 (ASTM D1298) FLASH POINT: >185°F (85°C) (ASTM D 93) ANILINE POINT: >167°F (75°C) (ASTM D 611) TOTAL AROMATICS CONTENT: < 0.5% WT. (ASTM D 5292) POLYCYCLIC AROMATICS HYDROCARBONS CONTENT: < 0.1% WT BUT > 0.001% WT (EPA 1654 REV. A) OLEFINS CONTENT: NIL PPM BENZENE CONTENT: NIL PPM POLYNUCLEAR AROMATIC: NIL PPM MYSID SHRIMP NINETY-SIX HOUR BIOASSAY TEST LC50: > 100,000 PPM. SAUDI ARAMCO RESERVES THE RIGHT TO COLLECT REPRESENTATIVE PRODUCT SAMPLES AND CONDUCT LABORATORY TESTS TO ENSURE COMPLIANCE WITH THE MATERIAL DESCRIPTION AND SPECIFICATIONS. PRODUCT MANUFACTURER AND OR SUPPLIER ARE REQUIRED TO SUBMIT LAB CERTIFICATE OF ANALYSIS FOR EVERY BATCH (COA) AND CERTIFICATE OF ORIGIN (COO). LABEL: PRODUCT NAME, BATCH NUMBER, PRODUCTION DATE, EXPIRATION DATE, SAP NUMBER AND COUNTRY OF ORIGIN, MANUFACTURER NAME AND CONTACT INFORMATION. HAZCOM ACCORDING TO THE MATERIAL SAFETY DATA SHEET (MSDS).
Electrical	6000016802	ANODE; MMO GRID, WITHOUT LEAD; CP	ANODE IMPRESSED CURRENT; GRID SYSTEM, WITHOUT LEAD TERMINAL, MIXED METAL OXIDE COATED TITANIUM BASE, TITANIUM CONDUCTOR BAR & ANODE WIRE CONNECTION, FOR CATHODIC PROTECTION, 17-SAMSS-007
Electrical	6000001011	POWER SUPPLY; ELECTRICAL; SOLAR, CP	POWER SUPPLY ELECTRICAL; HODIC PROTECTION POWER PLY ELECTRICAL SOLAR POWER TYPE, 17-SAMSS-012
Electrical	6000000957	CABLE; ELECTRICAL, CP, OFFSHORE ANODE	CABLE ELECTRICAL; ORED HODIC PROTECTION OFFSHORE TYPE, 17-SAMSS-017, ARMORED
Electrical	6000015902	UNIT; MOBILE SUBSTATION	UNIT; MOBILE SUBSTATION TYPE, TMSS-01, 35-TMSS-1 TMSS-10, 46-TMSS-6 TMSS-1, 31-TMSS-2 TMSS-2, 32-TMSS-3 51-TMSS-1, 37-TMSS-1 TMSS-03, 11-SDMS-03 54-TMSS-1, MOBILE SUBSTATION AS PER ATTACHED TECHNICAL SPECIFICATION, BASED ON SEC STANDARDS. #SCOPE INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING: ENGINEERING, DESIGN, MANUFACTURING, ASSEMBLING, FACTORY TESTING, DELIVERY TO KSA, MINISTRY OF TRANSPORT APPROVAL, DOCUMENTATION, #SPARE PARTS CATALOGUE, SUPPLY OF CRITICAL SPARE PARTS FOR COMMISSIONING, SITE PRE-COMMISSIONING. #
Electrical	6000017041	SWITCHGEAR; GAS INSULATED, 33 & 34.5 KV	SWITCHGEAR; SF6 GAS INSULATED TYPE, 33KV AND 34.5KV, 32-SDMS-09, SF6 GAS INSULATED METAL CLAD 33 AND 34.5KV SWITCHGEARS, MAXIMUM RATING IS 2500A
Electrical	6000017060	UNIT; MAIN RING, 13.8 KV	UNIT; RING MAIN TYPE, 32-SDMS-01, NON-EXTENSIBLE SF6 INSULATED RING MAIN UNIT, 13.8 KV.
Electrical	6000016594	CAPACITOR BANK	UNIT; SHUNT CAPACITOR TYPE, 43-TMSS-01, SAES-P-116, POWER FACTOR CORRECTION CAPACITOR BANK 4.16KV THROUGH 380KV
Electrical	6000000774	TRAY; CABLE, FIBERGLASS	TRAY; CABLE TYPE, FIBERGLASS, NEMA FG-1, S-P-104 SEC. 9
Others	6000014710	FLANGE; PIPE; CONNECTOR, MECHANICAL END	FLANGE PIPE; CONNECTOR TYPE, MECHANICAL END CONNECTORS
Others	6000000943	ANODE; BACKFILL CARBON MATERIAL, ICCP, CP	ANODE; S CINED CARBON BACKFILL HODIC PROTECTION TYPE, FOR IMPRESSED CURRENT
Others	6000000482	LUMBER; PRESSURE TREATED	LUMBER; PRESSURE TREATED, 09-SAMSS-002, ONSHORE UTILITIES ONLY
Others	6000000618	BUILDING; PORTABLE, PRE-FABRICATED, STEE	BUILDING; PORTABLE TYPE, SIZE ANY, STEEL, 12-SAMSS-007, 12-SAMSS-014 AWS D1.1, AWS D1.3, PRE-FABRICATED, INCLUDING ANCHOR ROD. ONSHORE APPLICATIONS. MATERIAL NOT SUITABLE FOR ELECTRICAL BUILDINGS.
Drilling Equipment	6000003721	Mudline Suspension system with suspension caps	SUSPENSION SUB-SEA MUDLINE; HANGERS, RUNNING AND RETRIEVING, AND TIEBACK TOOLS TYPE, API 6A AND 17D, FOR OIL AND EXPLORATION WELLS API MONOGRAMMED OR NON-MONOGRAMMED NACE MR0175 LOW ALLOY STEEL OR INCONEL MATERIAL
Drilling Equipment	6000013251	coflexip flexible choke and kill lines	LINE; CHOCK AND KILL TYPE
Drilling Equipment	6000010721	Expandable Pipe System	UNIT; EXPANDABLE CASING & ACCESSORIES
Drilling Equipment	6000015784	Multilateral system	LATERAL; LATERALS AND ACCESSORIES EQUIPMENT
Drilling Equipment	6000004089	Open Hole Expandable latch anchor whipstock	WHIPSTOCK; RETRIEVABLE TYPE, DRILLING OPERATIONS
Drilling Equipment	6000004043	Single ICD Installation	CEMENTER; MULTI STAGE INFLATABLE AND MECHANICAL PACKER FOR CEMENTING (DV)
Drilling Equipment	6000010715	Tracer Subs system ( 3-1/2" & 4-1/2")	PACKER; EQUALIZER, SAND SCREENS, ACCESSORIES, VARIOUS
Drilling Equipment	6000003815	API coupling OCTG	COUPLING OCTG; STEEL, FORGED SEAMLESS, 45-SAMSS-006, API-5CT API-5B, GR J-55, K-55, L-80, L80-13CR, S-95, P-110, SIZE 2-3/8 IN- 18-5/8 IN, 4.7 LB/FT - 115 LB/FT WT
Pipe & OCTG	6000013160	PIPE&FITTINGS; NON-METAL; RTR	PIPE NON-METALLIC; MAXIMUM 14 IN NPS, REINFORCED THERMOSETTING RESIN, REINFORCED THERMOSETTING RESIN (RTR), FOR WATER (NON-UTILITY) AND HYDROCARBON APPLICATIONS MAX TEMP 200 F, 01-SAMSS-042, API 15HR API 15LR
Pipe & OCTG	6000009160	PIPE: METALLIC, CLAD PIPE	PIPE METALLIC; CARBON STEEL, CLAD WITH CORROSION RESISTANT ALLOY, 01-SAMSS-048, API 5LD
Pipe & OCTG	6000014017	PIPE: METALLIC, WELD OVERLAYED PIPE	PIPE METALLIC; CARBON STEEL, OVERLAYED WITH CORROSION RESISTANT ALLOY, 01-SAMSS-048, API 5LD
Pipe & OCTG	6000003855	CASING: OCTG; API GR; SAW	CASING OCTG; STEEL, SAW, 45-SAMSS-006, API-5L, SIZE 26 IN. AND LARGER
Pipe & OCTG	6000003877	TUBING: OCTG; API GR; SEAMLESS	TUBING OCTG; STEEL, SEAMLESS, API-5C2, API-5B 45-SAMSS-006
Pipe & OCTG	6000007293	COUPLING: OCTG; HIGH NICKEL	COUPLING OCTG; HIGH NICKEL ALLOY STAINLESS STEEL, SEAMLESS, API-5CT, ISO-13680 45-SAMSS-006, GR UNS N08020 OR EQUIVALENT, PREMIUM THREAD END CONN, COLLAPSE TEST PER API WITH ONE SAMPLE TESTED PER 200 JOINTS OF MOTHER TUBE
Pipe & OCTG	6000007303	CASING: OCTG; HIGH NICKEL; SEAMLESS	CASING OCTG; HIGH NICKEL ALLOY STAINLESS STEEL, SEAMLESS, API-5CT, ISO-13680 45-SAMSS-006, GR UNS N08028 OR EQUIVALENT, PREMIUM THREAD END CONN, AA. COLLAPSE TEST PER API WITH AB. ONE SAMPLE TESTED PER 200 JOINTS
Pipe & OCTG	6000007305	CROSSOVER: OCTG; HIGH NICKEL	CROSSOVER; OCTG, HIGH NICKEL ALLOY STAINLESS STEEL, SEAMLESS TYPE, PREMIUM THREAD TERMINAL, API-5CT, ISO-13680 45-SAMSS-006, COLLAPSE TEST PER API WITH ONE SAMPLE TESTED PER 200 JOINTS OF MOTHER TUBE, GR UNS N08020 OR EQUIVALENT
Pipe & OCTG	6000007307	PUP JOINT: CASING OCSG; HIGH NICKEL	PUP JOINT OCTG; HIGH NICKEL ALLOY STAINLESS STEEL, SEAMLESS, API-5CT, ISO-13680 45-SAMSS-006, GR UNS N08028 OR EQUIVALENT, PREMIUM THREAD END CONN, COLLAPSE TEST PER API WITH ONE SAMPLE TESTED PER 200 JOINTS OF MOTHER TUBE
Pipe & OCTG	6000003831	COLLAR: DRILL; STANDARD	DRILL; SPIRAL/ SLICK TYPE, SIZE 3-1/8" - 11" OD, 31 FEET LG LG, AISI 4145 H MODIFIED, API-7-1
Instrumentation and IT	6000001582	CONTROLLER; ELECTRONIC; COMPRESSOR	CONTROLLER; COMPRESSOR INCLUDING SURGE CONTROL TYPE, SPECIALIZED CONTROL SYSTEMS
Instrumentation and IT	6000002725	ESD; ELECTRONIC; SOLID STATE	RELAY PROTECTION SOLID STATE; EMERGENCY SHUTDOWN SYSTEM ACTION, 34-SAMSS-621, SOLID STATE ELECTRONICS BASED USED TO SAFELY SHUTDOWN A PROCESS IN CASE OF PROCESS DEVIATING TO HAZARDOUS OPERATING CONDITIONS. #
Instrumentation and IT	6000016111	DRAG REDUCING AGENT (DRA)	CHEMICAL; SAEP-501, DRA IT IS A CHEMICAL THAT IS COMPOSED OF LONG CHAINS OF VERY HIGH MOLECULAR WEIGHT POLYMERS SUSPENDED IN A CARRIER FLUID USED IN FLUID-TRANSPORTING-PIPELINE TO REDUCE PIPELINE FRICTIONAL LOSSES/PRESSURE DROP FOR THE PURPOSE OF INCREASING PIPELINE FLOW RATE AND/OR DECREASING PIPELINE OPERATING PRESSURE
Instrumentation and IT	6000007390	GUIDED WAVE RADAR LEVEL TRANSMITTERS	TRANSMITTER LIQUID LEVEL; GUIDED WAVE RADAR (GWR) TYPE, GUIDED WAVE RADAR (GWR) LEVEL TRANSMITTERS
Instrumentation and IT	6000002898	BUILDING; ANALYZER; INCLUDES INTEGRATION	BUILDING; ANALYZER TYPE, SAES-J-510, INCLUDES ANALYZER INTEGRATION.
Instrumentation and IT	6000012803	VALVE, RELIEF; SURGE PILOT OPERATED	VALVE RELIEF; SIZE ANY, ANY END CONN, ANY SUPPLY, ANY, SAES-J-605, SURGE, PILOT OPERATED TYPE, FACTORY TESTING IS REQUIRED FOR COMPLEX RATE-OF-RISE OR MODULATING VALVES.
Instrumentation and IT	6000013921	ANALYZER, Proc Photometer/Spectrometer	ANALYZER; 34-SAMSS-515, PROCESS PHOTOMETERS AND SPECTROMETERS INCLUDING TUNABLE DIODE (EXTRACTIVE)
Instrumentation and IT	6000002786	MONITOR; GAS; HYDROGEN SULFIDE;	MONITOR GAS; HYDROGEN SULFIDE, 34-SAMSS-514
Instrumentation and IT	6000010782	CONTROLLER; SMART VALVE POSITION TYPE	CONTROLLER; SMART VALVE POSITION TYPE, 34-SAMSS-634, FOR USE WITH EMERGENCY SHUTDOWN VALVES.
Instrumentation and IT	6000010821	ACTUATOR: VALVE; ELECTRIC FAILSAFE	ACTUATOR VALVE ELECTRIC; 34-SAMSS-716, ELECTRIC ACTUATOR FOR OPERATING VALVE, FAILSAFE DESIGN
Instrumentation and IT	6000002732	MONITOR; FLAME MONITORING SYSTEM	MONITOR; IGNITERS AND BURNERS USED E MONITORING SYSTEM D IN FIRED EQUIPMENT. TYPE, 34-SAMSS-617
Instrumentation and IT	6000002822	GAUGE; RADAR; TANK GAUGING;	GAUGE; RADAR TYPE, 34-SAMSS-319, TANK GAUGING EQUIPMENT FOR INVENTORY TANK USE ONLY.
Instrumentation and IT	6000009890	CUSTODY PROVER, SMALL VOLUME, UNI PISTON	METER; UND PISTON (SMALL VOLUM) PROVER TYPE, 34-SAMSS-119, FOR LIQUID CUSTODY TRANSFER
Instrumentation and IT	6000002914	ANALYZER; GAS CHROMATOGRAPH; Sheltered	ANALYZER; GAS CHROMATOGRAPH TYPE, 34-SAMSS-510, PROCESS GAS OR LIQUID

Sourcing List			
Commodity	Material	Description	Long Description
Instrumentation and IT	6000002689	CALIBRATION GAS CYLINDER FOR GAS MONITOR	CYLINDER; CALIBRATION GAS TYPE,SIZE ANY,ANY,FOR COMBUSTIBLE & TOXIC GAS MONITORS ONLY
Instrumentation and IT	6000002856	VALVE; AUTOMATIC RECIRCULATION;	VALVE; AUTOMATIC RECIRCULATION TYPE,34-SAMSS-711
Instrumentation and IT	6000009917	CUSTODY SYSTEM, TRUCK LOADING, POS DISP	SYSTEM:METERING; CUSTODY TRANSFER METERING TYPE,34-SAMSS-167,TRUCK LOADING, POS DISP, TRUCK LOADING, PD METER, TRUCK LOADING, CORIOLIS METER
Instrumentation and IT	6000009918	CUSTODY SYS TRUCK UNLOADING, POS DISP	SYSTEM:METERING; CUSTODY TRANSFER METERING TYPE,34-SAMSS-168,TRUCK UNLOADING, POS DISP
Instrumentation and IT	6000014614	CUSTODY TANK GAUGING SYSTEM, RADAR	GAUGE TANK LEVEL; RADAR CUSTODY TRANSFER TYPE,34-SAMSS-321,SAES-Y-301,RADAR TANK GAUGING SYSTEMS FOR CUSTODY TRANSFER
Static Equipment	6000000196	TRAP; STEAM; MECHANICAL	TRAP STEAM; FLOAT, BALL TYPE,FLANGED, THREADED, SOCKET INLET,FLANGED, THREADED, SOCKET OUTLET,PR PISG,PISG INLET,LB/HR CONDENSE,DEG F (DEG CO) OPERATING,ASTM BODY,ASTM TRIM,ASTM STRAINER,ASTM ELEMENT,FLOAT,BALL,OTHER STANDARD EQUIVALENT MAY BE SHOWN
Static Equipment	6000016518	Spool; Pipe	SPOOL PIPE; ENGINEERING & DESIGN PIPE SPOOL TYPE,ALL SIZES NPS,FLANGED TERMINAL,METALLIC, CARBON STEEL, LTCS, S.S., 01-SAMSS-010 & NACE MR 0175/ISO 15156 COMPLIANT, ALL, HYDROCARBON, WATER AND STEAM SERVICE, USING GAS OR LIQUID AS MOTIVE FORCE,,ANSI B31.3,NACE MR 0175
Static Equipment	6000002748	IGNITER	IGNITER; FLARE TYPE,FLARE
Static Equipment	6000002508	FLARE; PROCESSED PLANT; INCLUDING TEMPER	FLARE; PROCESSED PLANT TYPE,32-SAMSS-022,31-SAMSS-003 32-SAMSS-004,32-SAMSS-011 32-SAMSS-013,34-SAMSS-830 34-SAMSS-711,INCLUDING TEMPERATURE CONTROLS,IGNITERS AND STACK AND BURNPIT WITH ACCESSORIES, FOR FGRS INCLUDES: COMPRESSORS, PRESSURE VESSELS(WATER SEAL DRUMS) OR CONTROL VALVES WITH BUCKING PIN VALVES, BLOWERS AND AIR COOLED HEAT EXCHANGERS. FOR IN-HOUSE HPAAS (HIGH PRESSURE AIR ASSIST SYSTEM) FLARE SMOKELESS APPLICATION INCLUDE: HPAAS FLARE TIP, COMPRESSORS, PRESSURE VESSELS(AIR DRYER AND RECEIVER DRUM), CONTROL VALVES AND HEAT EXCHANGERS.
Static Equipment	6000002879	SKID; DRYER, INSTRUMENT AIR & COMPRESSED	SKID; DRYER TYPE,32-SAMSS-038,INSTURMENT AIR & COMPRESSED GAS, PRESSURE VESSELS AND MAIN COMPONENTS TO BE SOURCED FROM APPROVED VENDORS PER THE APPLICABLE 9COMS AND SAMSS.
Static Equipment	6000011206	SKID; FILTRATION SYSTEM	SKID; 32-SAMSS-038,FILTRATION SYSTEM
Static Equipment	6000011701	SKID; SEPARATION; TWO/THREE PHASE	SKID; SEPARATION TWO/THREE PHASE, GRAVITY TYPE,32-SAMSS-004,02-SAMSS-005 02-SAMSS-011,04-SAMSS-035 04-SAMSS-048,01-SAMSS-016 SAES-L-105,SAES-L-132 SAES-L-133,SAES-J-001 SAES-L-150,NACE-MR 0175
Static Equipment	6000015600	VAPOR RECOVERY UNIT (VRU)	UNIT; VAPOR RECOVERY UNIT TYPE,32-SAMSS-004,32-SAMSS-019 API-672,API-681 ASME B73.1 OR ISO 2858,ISO SAES-G-005,SAES-K-101 ASHRAE 90.1 EER,VAPOR RECOVERY UNITS (VRU) IS A PROCESS UNIT/MODULE THAT RECOVERS VOLATILE ORGANIC COMPOUNDS, VOCS, OR VENT GASES SUCH AS METHANE, ETHANE, PROPANE AND CARBON DIOXIDE TO AVOID VENTING TO ATMOSPHERE OR FLARE. IT IS USED TO RECOVER VAPORS THAT RESULT FROM LOADING OF PETROLEUM AND PETROCHEMICAL PRODUCTS AND TRANSFER OF EVAPORATIVE HYDROCARBONS SUCH AS GASOLINE, NAPHTHA, AROMATICS, FUEL AND ALCOHOL
Static Equipment	6000000254	VALVE; BALL; SCRAPER LAUNCHING; STEEL	VALVE BALL; ANSI CL 150 AND UP SUPPLY,FLANGED OR BUTTWELD END CONN,STEEL BODY,STYLE SCRAPER LAUNCHING, SOFT SEATED SEAT,04-SAMSS-051,04-SAMSS-035 04-SAMSS-048,WITH OR WITHOUT ACTUATOR
Static Equipment	6000000265	VALVE;CHECK;NPS 14 AND ABOVE;NON-FERROUS	VALVE CHECK; SIZE NPS 14 AND ABOVE,ANY RATING SUPPLY,NON-FERROUS(BRASS/BRONZE) BODY,DUAL PLATE,WAFFER END CONN,04-SAMSS-035,04-SAMSS-048
Static Equipment	6000000280	VALVE; CHOKE; NEEDLE; 2 INCH AND UP; API	VALVE CHOKE; NEEDLE AND SEAT TYPE,UPTO 3 INCH MAXIMUM ORIFICE BODY,PR 2000 THRU 5000 PSI SUPPLY,FLANGED HUBBED OR BUTTWELD END CONN,MR API 6A,STEEL BODY,04-SAMSS-055,ISO 10423, WITH OR WITHOUT ACTUATOR
Static Equipment	6000000290	VALVE; GATE; THRU CONDUIT;EXPANDING GATE	VALVE GATE THRU CONDUIT; SIZE NPS 2 AND UP,ASME CL 150 AND UP SUPPLY,FLANGED OR BUTTWELD END CONN,STYLE EXPANDING GATE,STEEL BODY,04-SAMSS-050,WITH OR WITHOUT ACTUATOR
Static Equipment	6000000313	VALVE; CHOKE; API 6A, 10000 PSI	VALVE CHOKE; NEEDLE AND SEAT TYPE,UPTO 2 INCH MAXIMUM ORIFICE BODY,PR 10000 PSI SUPPLY, HUBBED, FLANGED OR BUTTWELD END CONN, MR API 6A,STEEL BODY,04-SAMSS-055,ISO 10423,WITH OR WITHOUT ACTUATOR
Static Equipment	6000000315	VALVE; CHOKE; AUTOMATIC PLUG-AND-CAGE; H	VALVE CHOKE; PLUG-AND-CAGE SINGLE STAGE TRIM TYPE,UPTO 6 INCH MAXIMUM ORIFICE BODY,PR 10,000 PSI,FLANGED HUBBED OR BUTTWELD END CONN,STEEL BODY,04-SAMSS-055,ISO 10423,WITH OR WITHOUT ACTUATOR
Static Equipment	6000014491	VALVE; NPS 2 TO 20, COMPOSITE MATERIAL	VALVE; BUTTERFLY, BALL OR CHECK TYPE,SIZE NPS 2 THRU 20,ASME CLASS 150 & 300 SUPPLY,FLANGED END CONN, COMPOSITE (NON-METALLIC) BODY
Static Equipment	6000014971	COUPLER;LPG LOADING,INCLUDE VAPOR	COUPLER; LPG LOADING TYPE,SIZE ALL SIZES,HARD PIPE TERMINAL,INCLUDE VAPOR AND BREAKAWAY COUPLERS, CONTACT CSD FOR DETAILS
Static Equipment	6000000308	VALVE; PLUG; LUBRICATED	VALVE PLUG; LUBRICATED TYPE,SIZE ANY SIZE,ANY PRESSURE RATING SUPPLY,STEEL BODY,04-SAMSS-035,04-SAMSS-048 04-SAMSS-053,04-SAMSS-055 ASME B16.34,API 599 ISO 10423,WITH OR WITHOUT ACTUATOR,ASME CLASS 150 AND UP, API 2000 TRHU 5000.
Static Equipment	6000001823	AIR CONDITIONING UNIT; PACKAGED UNIT TRA	AIR CONDITIONING UNIT; PACKAGED UNIT TRAILERIZED TYPE, AIR COOLED, R-22 OR R-134A, MANUFACTURER STANDARD
Static Equipment	6000001826	A/C Unit,mini-split,DE below 5.5 Tons	AIR CONDITIONING UNIT; AIR CONDITIONING UNIT SPLIT TYPE, LESS THAN 5.5 TON COOLING TONNAGE, DIRECT EXPANSION TYPE,AHRI 210/240,UL-1995
Static Equipment	6000001862	A/C UNIT;SPLIT;DIRECT EXP,5.5 TO 63 TONS	AIR CONDITIONING UNIT; AIR CONDITIONING UNIT SPLIT UNIT DIRECT EXPANSION TYPE,SIZES 5.5 TO 63 COOLING TONNAGE COOLING,AHRI 340/360,UL1995,EER VALUE SHALL BE IN ACCORDANCE WITH THE EER TABLE IN SAES-K-001.
Static Equipment	6000002404	TOWER; COOLING; WATER;	TOWER COOLING; WATER TYPE,27-SAMSS-003,ASHRAE 90.1
Static Equipment	6000001838	CONTROLLER; PROGRAMMABLE LOGIC; ENERGY M	CONTROLLER PROGRAMMABLE LOGIC; SAES-K-011,UL-916 ASHRAE 135, ENERGY MANAGEMENT SYSTEM: BUILDING
Static Equipment	6000001821	AIR HANDLING UNIT; AHU; CHILLED WATER OR	AIR HANDLING UNIT; AHU TYPE,CHILLED WATER OR DIRECT EXPANSION,ONSHORE ALL SIZES AND OFFSHORE LESS THAN 10 TONS COOLING,MANUFACTURER STANDARD
Static Equipment	6000001822	AIR CONDITIONING UNIT; SELF CONTAINED; O	AIR CONDITIONING UNIT; SELF CONTAINED TYPE,(PACKAGED UNIT) CERTIFIED TO AHRI 340 AND UL 1995 STD
Static Equipment	6000000150	TEE; PIPE, SPLIT TEE; HOT TAPPING; CS	TEE PIPE; STEEL, EXTRUDED OR WELDED BRANCH, 02-SAMSS-006, SPLIT TEE, FLANGE WELDED TO BRANCH, FOR HOT TAPPING
Static Equipment	6000002397	BRICK; REFRACTORY	BRICK REFRACTORY; BRICK REFRACTORY
Static Equipment	6000000134	SLEEVE; PIPE; TWO HALVES; BOLTED FLANGED	SLEEVE PIPE BOLTED; STEEL,FOR PIPE REPAIR,FOR PIPE REPAIR
Static Equipment	6000009264	JOINT, METAL TO METAL SEAL	COUPLING PIPE; METAL TO METAL (POSITIVE OR NEGATIVE) SEAL MECHANICAL TERMINAL,IN NPS,OY STEEL,MM (IN),PSI SUPPLY, M,GED MLESS UGHT,E URAL FINISH,ASME,ASME,(IN) (IN),ITIVE OR NEGATIVE ITIVE OR NEGATIVE JOINT; METAL TO METAL SEAL MECHANICAL TYPE,CS/ SS/ALLOY STEEL,(IN) (IN),ITIVE OR NEGATIVE ITIVE OR NEGATIVE
Static Equipment	6000000097	JOINT; PIPE; EXPANSION; ANY METAL	JOINT EXPANSION; ASME B16.5
Static Equipment	6000002475	BLOWER; SOOT; 32-SAMSS-029	BLOWER; SOOT TYPE,32-SAMSS-029
Static Equipment	6000002436	HEAT EXCHANGER; ELECTRIC; 32-SAMSS-027;	HEAT EXCHANGER; ELECTRIC TYPE,32-SAMSS-027
Static Equipment	6000002399	CEMENT; REFRACTORY; SAES-N-100; INSULATI	CEMENT; REFRACTORY TYPE,SAES-N-100,INSULATING