

Material Sourcing Gaps - China 2021

Gap ID	Material No.	Short Description	Long Description	Commodity
12126	6000016483	MUD SYSTEM	ADMIXTURE DRILLING MUD; ANY,DRILLING FLUIDS SYSTEM OR PRODUCT USED AS WATER BASED MUD(WBM) OR OIL BASED MUD (OBM) OR FOR SPECIAL APPLICATIONTO 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
12127	6000016483	MUD SYSTEM	ADMIXTURE DRILLING MUD; ANY,DRILLING FLUIDS SYSTEM OR PRODUCT USED AS WATER BASED MUD(WBM) OR OIL BASED MUD (OBM) OR FOR SPECIAL APPLICATIONTO 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
12128	6000016483	MUD SYSTEM	ADMIXTURE DRILLING MUD; ANY,DRILLING FLUIDS SYSTEM OR PRODUCT USED AS WATER BASED MUD(WBM) OR OIL BASED MUD (OBM) OR FOR SPECIAL APPLICATIONTO 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
12129	6000016483	MUD SYSTEM	ADMIXTURE DRILLING MUD; ANY,DRILLING FLUIDS SYSTEM OR PRODUCT USED AS WATER BASED MUD(WBM) OR OIL BASED MUD (OBM) OR FOR SPECIAL APPLICATIONTO 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
12130	6000016483	MUD SYSTEM	ADMIXTURE DRILLING MUD; ANY,DRILLING FLUIDS SYSTEM OR PRODUCT USED AS WATER BASED MUD(WBM) OR OIL BASED MUD (OBM) OR FOR SPECIAL APPLICATIONTO 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
12131	6000016483	MUD SYSTEM	ADMIXTURE DRILLING MUD; ANY,DRILLING FLUIDS SYSTEM OR PRODUCT USED AS WATER BASED MUD(WBM) OR OIL BASED MUD (OBM) OR FOR SPECIAL APPLICATIONTO 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
12132	6000016483	MUD SYSTEM	ADMIXTURE DRILLING MUD; ANY,DRILLING FLUIDS SYSTEM OR PRODUCT USED AS WATER BASED MUD(WBM) OR OIL BASED MUD (OBM) OR FOR SPECIAL APPLICATIONTO 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
12175	1000885304	LUBRICANT OBM	LUBRICANT FOR OBM ESTER-BASED LUBRICANT; LIQUID FORM,55 GAL (208 LITER) DRUM SHIPMENT OF PRODUCT SHALL CONFORM TO SAUDI ARAMCO EXPORT PACKING MANUAL.,ASTM D-92 FOR FLASH POINT,SERVICE: USED TO IMPROVE LUBRICITY OF OIL-BASED MUD SYSTEMS, COMPOSITION: BLEND OF POLYMERIC FATTY ACID ESTERS AND ESTERS, LUBRICANT FOR OBM-ESTER BASED: LIQUID BLEND OF POLYMERIC FATTY ACID ESTER AND ESTER, USED TO IMPROVE LUBRICITY OF OIL-BASED MUD SYSTEMS. IT REDUCES TORQUE AND DRAG, AND THE RISK OF DIFFERENTIAL STICKING IN DEEP,TORTUOUS, HIGH ANGLE OR EXTENDED REACH WELLS. CHEMICAL AND PHYSICAL SPECIFICATIONS: APPEARANCE: YELLOW TO AMBER-YELLOWISH BROWN LIQUID INSOLUBLE IN WATER COMPATIBLE WITH NITRILE ELASTOMERS FLASH POINT (CMOC): >428°F (220°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). UOM REFERRED IN THIS MATERIAL IS NET VOLUME/WEIGHT.	Chemicals

Material Sourcing Gaps - China 2021

12185	1000823699	THINNER OBM	<p>THINNER/DISPERSANT-OBM CONDITIONER ADDITIVE DRILLING FLUID; LIQUID FORM,SULFONATE BLEND WITH FATTY ACID,FOR USED TO LOWER REHEOLOGICAL PROPERTIES OF OIL BASE FLUIDS.,POLYOLEFIN/ORGANIC SULFONATE BLEND WITH FATTY ACID,55 GALLON (208 LITER) DRUM. SHIPMENT OF PRODUCTS MUST CONFORM TO SAUDI ARAMCO EXPORT PACKING MANUAL.,THINNER/DISPERSANT-OIL-BASE MUD CONDITIONER: LIQUID POLYOLEFIN/ORGANIC SULFONATE BLEND WITH FATTY ACID DERIVATIVES USED TO LOWER RHEOLOGICAL PROPERTIES FOR OIL BASE FLUIDS. OTHER ASSOCIATED ELEMENTS MUST NOT BE HARMFUL TO PERSONNEL AND/OR ADVERSELY AFFECT FLUID PROPERTIES. CHEMICAL AND PHYSICAL SPECIFICATIONS: APPEARANCE: DARK AMBER LIQUID SOLUBILITY: INSOLUBLE IN WATER SPECIFIC GRAVITY: 0.90 - 0.96 FLASH POINT (PMCC): > 212°F (100°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).UOM REFERRED IN THIS MATERIAL IS NET VOLUME/WEIGHT</p>	Chemicals
12204	1000827162	LIGNITE	<p>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). UOM REFERRED IN THIS MATERIAL IS NET VOLUME/WEIGHT.</p>	Chemicals
12214	1001071292	1001071292	<p>NON-EMULSIFIER SURFACTANT. ADDITIVE DRILLING FLUID; LIQUID NON-EMULSIFIER SURFACTANT FORM,NON-EMULSIFIER SURFACTANT,FOR LIQUID FORM, SURFACTANT DESIGNED AS NONEMULSIFIER ADDITIVE FOR ACIDIZING LIMESTONE,DOLOMITE AND SANDSTONE, OR FOR FRACTURE CLEANING TREATMENT LIQUID NON-IONIC WATER DISPERSING NON-EMULSIFIER SURFACTANT DESIGNED FOR APPLICATIONS IN CEMENTING, ACIDICING, WELL STIMATION, AND FRACTURING. THE PRODUCT CAN ALSO BE USED AS TREATMENT OF THE WELLBORE BEFORE DISPLACEMENT FROM OIL BASED MUDS TO WATER BASE,NON-EMULSIFIER SURFACTANT,5 GAL PAIL, NET PRODUCT VOLUME OF 5 GAL,APPEARANCE: YELLOW LIQUID. SPECIFIC GRAVITY AT 68 DEG.F (20 DEG. C): 0.85-0.95. FLASH POINT: >86 DEG. F (30 DEG. C). NON-DEGRADABLE IN 15% HCL. 5 GAL PAIL(18.9 LITERS), NET PRODUCT VOLUME OF 5 GAL. 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). PRODUCT MANUFACTURER AND/OR SUPPLIER ARE REQUIRED TO SUBMIT LAB CERTIFICATE OF ANALYSIS (COA) AND CERTIFICATE OF ORIGIN (COO) FOR EVERY BATCH. UOM REFERRED IN THIS MATERIAL IS NET VOLUME/WEIGHT.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. UOM REFERRED IN THIS MATERIAL IS NET VOLUME/WEIGHT.</p>	Chemicals

Material Sourcing Gaps - China 2021

12224	1000814796	ACETIC ACID > 96%	<p>MICRO WASH-GLACIAL ACID-BAKER HUGHES ADDITIVE DRILLING FLUID; CLEAR, COLORLESS LIQUID FORM, LIQUID CARBOXYLIC ACID, FOR USED FOR ACIDIZING SOLUBLE CALCIUM CARBONATE PARTICLES AFTER USING OBM., LIQUID CARBOXYLIC ACID WITH THE MOLECULAR FORMULA OF CH₃COOH, 275 GALLON IBC TOTE CONTAINER SPECIFICATIONS: LEAK PREVENTION MECHANISM: VALVE CLOSED WITH SCREW CAP PE-DISC AND FLAT GASKET, VALVE HANDLE SECURED WITH A LOCKING SCREW. INNER CONTAINER SHOULD BE HIGH MOLECULAR WEIGHT, HIGH DENSITY POLYETHYLENE (HMWHDPE) W/EXTRUSION BLOW MOLDED, SPECIALLY SHAPED TO ENSURE COMPLETE DISCHARGE OF CONTENTS. OUTER CONTAINER SHOULD BE RIGID, WELDED GALVANIZED TUBULAR STEEL GRID WITH A LARGE PERMANENTLY FIXED IDENTIFICATION PLATE. MOLDED BOTTOM SHELL SHOULD BE PRESSED GALVANIZED STEEL BASE SHAPED TO SUPPORT THE INNER CONTAINER AND ASSIST TOTAL DRAINAGE. PALLETS SHOULD BE STEEL AND HAVE 4 WAYS ENTRIES. SHIPMENT OF PRODUCTS MUST CONFORM TO SAUDI ARAMCO EXPORT PACKING MANUAL., MICRO-WASH ACETIC ACID-BAKER HUGHES: CLEAR LIQUID CARBOXYLIC ACIDS WITH THE FORMULA OF CH₃COOH, USED FOR ACIDIZING SOLUBLE CALCIUM CARBONATE PARTICLES, AFTER USING OBM, IN WELLBORE REMEDIATION AND CLEANUP PROCESS TO IMPROVE WELL PRODUCTIVITY. BAKER HUGHES MICRO-WASH ACID SYSTEM CONSISTS OF: PRIME-743 (SAP #1000811425), PRIME-760 (SAP #1000811426), PRIME-770 (SAP #1000811427), OHR-759 (SAP #1000811421), OHR-AC (SAP #1000811422), OHR-757 (SAP #1000811423), OHR-750 (SAP #1000811424), GLACIAL ACETIC ACID (SAP #1000814796), AND FORMIC ACID (SAP #1000811877). CHEMICAL AND PHYSICAL SPECIFICATIONS: APPEARANCE: CLEAR LIQUID, STRONG PUNGENT VINEGAR ODOR ACETIC ACID: >96% DENSITY: 1040-1050 KG/M³ (1.040-1.050 G/CM³) AT 25°C BOILING POINT: 242.6 °F (117 °C) MINIMUM FLASH POINT: >39 °C/102 °F (CLOSED CUP) AUTO-IGNITION TEMPERATURE: 799°C. SAUDI ARAMCO RESERVES THE RIGHT TO COLLECT REPRESENTATIVE PRODUCT SAMPLES AND CONDUCT LABORATORY TESTS TO ENSURE COMPLIANCE</p>	Chemicals
12234	1001047513	COPOLYMER LATEX	<p>COPOLYMER LATEX ADDITIVE DRILLING FLUID; LIQUID FORM, COPOLYMER LATEX, FOR ORGANIC COLLOIDAL MICRO-PARTICLES, DEFORMABLE AND COMPRESSIBLE, FOR SEALING MICRO-FRACTURES AND MINIMIZE DIFFERENTIAL STICKING AND TO IMPROVE WELLBORE STABILITY., COPOLYMER LATEX WITH ORGANIC COLLOIDAL MICRO-PARTICLES 208 LITERS, NET VOLUME PLASTIC DRUM. SHIPMENT OF PRODUCTS MUST CONFORM TO SAUDI ARAMCO EXPORT PACKING MANUAL., ORGANIC COLLOIDAL MICRO-PARTICLES, DEFORMABLE, COMPRESSIBLE, FOR SEALING MICRO-FRACTURES AND MINIMIZE DIFFERENTIAL STICKING AND TO IMPROVE WELLBORE STABILITY. IT IS HIGH TOLERANT TO SALTS AND MONOVALENT AND DIVALENT IONS, CAN IMPART FLUIDS LOSS CONTROL, IT DOES PLUG PORES TO REDUCE PERMEABILITY OF FILTER CAKE AND OVERTIME IT FORMS A FILM IN THE FILTER CAKE AT HIGH TEMPERATURES FOR STRENGTHENING THE WELLBORE. IT IS USED IN HIGH PERFORMANCE WATER-BASED MUD (FRESH OR SALT WATER) AT BOTTOM HOLE TEMPERATURES UP TO 450 °F (232 °C). IT IS AN ALTERNATIVE FOR POROSEAL FROM MI SWACO (SAP NO. 1000875825). CHEMICAL AND PHYSICAL SPECIFICATIONS: SPECIFIC GRAVITY: 1.09(G/CC) PH: 5.0-8.0. 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). *UOM REFERRED</p>	Chemicals
12244	1001038020	COPOLYMER LATEX	<p>COPOLYMER LATEX ADDITIVE DRILLING FLUID; LIQUID FORM, COPOLYMER LATEX, COPOLYMER LATEX WITH ORGANIC COLLOIDAL MICRO-PARTICLES, 208 LITERS PLASTIC DRUM. SHIPMENT OF PRODUCTS MUST CONFORM TO SAUDI ARAMCO EXPORT PACKING MANUAL, ORGANIC COLLOIDAL MICRO-PARTICLES, DEFORMABLE, COMPRESSIBLE, FOR SEALING MICRO-FRACTURES AND MINIMIZE DIFFERENTIAL STICKING AND TO IMPROVE WELLBORE STABILITY. IT IS HIGH TOLERANT TO SALTS AND MONOVALENT AND DIVALENT IONS, CAN IMPART FLUIDS LOSS CONTROL, IT DOES PLUG PORES TO REDUCE PERMEABILITY OF FILTER CAKE AND OVERTIME IT FORMS A FILM IN THE FILTER CAKE AT HIGH TEMPERATURES FOR STRENGTHENING THE WELLBORE. IT IS USED IN HIGH PERFORMANCE WATER-BASED MUD (FRESH OR SALT WATER) AT BOTTOM HOLE TEMPERATURES UP TO 320 °F (160 °C). IT IS AN ALTERNATIVE FOR MAXSHIELD FROM BAKER HUGHES (SAP NO. 1000758663). CHEMICAL AND PHYSICAL SPECIFICATIONS: SPECIFIC GRAVITY @ 68 DEG F (20 DEG C): 1.01 – 1.02. (G/CC) PH: 3.6-7.5 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). *UOM REFERRED IN THIS MATERIAL IS NET VOLUME/WEIGHT.</p>	Chemicals
12254	6000003963	Aluminum Stearate and/or Silicon base defoamer	CHEMICAL; ANY, MATERIALS USED TO RECING FOAMING IN WATER BASED MUD AND BRINE	Chemicals
12264	6000003953	Anhydrous Calcium Bromide Dry	CHEMICAL; ANY, MATERIALS USED TO INCREASE THE SALINITY AND/OR DENSITY IN WATER BASED MUD, OIL BASED MUD AND BRINE. USED IN COMPLETIONS FLUIDS	Chemicals

Material Sourcing Gaps - China 2021

12429	1000892841	CHEMICAL, POTASSIUM CARBONATE (K2CO3) 50	CHEMICAL; POTASSIUM CARBONATE (K2CO3) 50% SOLUTION IN WATER, FOR USED AS AN ABSORBANT MEDIA IN GASEOUS PHASE PROCESS SYSTEMS, LIQUID FORM, BULK, POTASSIUM CARBONATE AND WATER, POTASSIUM CARBONATE (K2CO3) 50% SOLUTION IN WATER, POTASSIUM CARBONATE (K2CO3) 50% SOLUTION IN WATER IS USED AS AN ABSORBANT MEDIA IN GASEOUS PHASE PROCESS SYSTEMS	Chemicals
12439	1000178625	ADDITIVE: FUEL OIL, COLD FLOW FUEL	ADDITIVE; FUEL OIL TYPE, FOR COLD FLOW FUEL ADDITIVE, LIQUID FORM, BULK DELIVERY (20000 KG PER ISOTANK), ASHLESS POLYMERS DISSOLVED IN PETROLEUM DERIVED SOLVENT, ADDITIVE IS USED FOR MODIFYING WAX CRYSTALS IN FUELS TO REACH A DESIRED COLD TEST SPECIFICATIONS (CFPP). TREATMENT RATES RANGE BETWEEN 50 TO 500 PPM DEPENDING ON FUEL CHARACTERISTIC, FLASH POINT (PMC-B), 67 DEG. C	Chemicals
12449	1000184546	CHEMICAL: GR TECHNICAL, METHYL	CHEMICAL; GR TECHNICAL, METHYL ALCOHOL, FOR INDUSTRIAL, LIQUID FORM, BULK DELIVERY, SYNTHETIC, METHANOL (WOOD ALCOHOL), ASTM D1152, FED SPEC O-M-232G GRADE A, UN 1230, REQUIRES SAUDI ARAMCO HAZCOM LABEL IN MM# 1000642494	Chemicals
12458	1000959459	CHEMICAL, GT GRADE, METHYLDIETHANOLAMINE	CHEMICAL; GR GT GRADE, METHYLDIETHANOLAMINE, FOR GAS TREATMENT AGENT, LIQUID FORM, ISO TANK, 2,2-(METHYLIMINO) DIETHANOL N-METHYLDIETHANOLAMINE > 99 %, 2-METHYLAMINOETHANOL N-METHYL-2-ETHANOLAMINE < 0.5%, MDEA, COLORLESS, ODOR: AMMONIACAL, PH: 10.4, BOILING POINT (760 MMHG): 247.3 C, VAPOR PRESSURE < 0.01 KPA AT 20 C, VAPOR DENSITY (AIR = 1): 4.1, SPECIFIC GRAVITY (H2O = 1): 1.041 AT 20 C. MDEA IS CAPABLE OF UNDERGOING REACTIONS TYPICAL OF BOTH ALCOHOLS AND AMINES, FORMING QUATERNARY AMINE SALTS, SOAPS, AND ESTERS. THIS MAKES MDEA A USEFUL INTERMEDIATE IN THE SYNTHESIS OF NUMEROUS PRODUCTS, AND HAS RESULTED IN ITS USE IN MANY DIVERSE AREAS, INCLUDING COATINGS, TEXTILE LUBRICANTS, POLISHES, DETERGENTS, PESTICIDES, PERSONAL CARE PRODUCTS, AND PHARMACEUTICALS.	Chemicals
12469	1000775823	CLAUS CATALYST, TITANIUM DIOXIDE	CATALYST; TITANIUM DIOXIDE TYPE, FOR CLAUS SULFUR PLANTS, CYLINDRICAL EXTRUDATE 3-6 MM NOMINAL SIZE FORM, 800-1100 KG (1763-2425 LB) SLING BAG, 140-200 KG (308-441 LB) DRUMS, TITANIUM DIOXIDE CLAUS CATALYST MAXIMISES HYDROLYSIS ACTIVITY FOR COS AND CS2, BULK DENSITY, LESS THAN OR EQUAL TO 700 - 1100 KG/M3 (43 - 69 LBS/CU FT), TOTAL PORE VOLUME 0.40 - 0.60 CM3/GRAM, CRUSH STRENGTH MEASURED ON NOT LESS THAN 50 BALLS SHOULD BE GREATER THAN OR EQUAL TO 14 KG , SURFACE AREA 100-260 M2/GRAM, USED IN CLAUS SULFUR REACTORS (CONVERTERS) IN GAS PLANTS & REFINERIES	Chemicals
12480	1000179350	CATALYST: ACTIVATED ALUMINA, CLAUS	CATALYST; ACTIVATED ALUMINA TYPE, FOR CLAUS CATALYST, 3-6 MM, FOR SULFUR REACTOR, SOLID SPHERE FORM, 800-1000 KG (1763-2204 LB) SLING BAG, DENSITY LESS THAN OR EQUAL TO 705 K G/CU DENSITY LESS THAN OR EQUAL TO 705 KG/CU M (44LBS/CU FT) REQUIRES SAUDI ARMCO HAZCOM LABEL IN MM# 1000644267	Chemicals
12490	1000179380	CATALYST: ACTIVATED ALUMINA, CLAUS	CATALYST; ACTIVATED ALUMINA TYPE, FOR CLAUS CATALYST, 5-10 MM FORM, 836.9-918.5 KG (1845-2025 LB) SLING BAG, FOR 1/4 TO 3/8 IN NOM SIZE, BULK DENSITY, LESS THAN OR EQUAL TO 705 KG/CU M (44 LBS/CU FT) MACRO POROSITY GREATER THAN OR EQUAL TO 0.14 CM3/GRAM, CRUSH STRENGTH MEASURED ON NOT LESS THAN 50 BALLS SHOULD BE GREATER THAN OR EQUAL TO 45 LBS' SURFACE AREA GREATER THAN OR EQUAL TO 320 M2/GRAM REQUIRES SAUDI ARAMCO HAZCOM LABEL IN MM# 1000644267	Chemicals
12500	1000183985	CATALYST: CHEMICAL, PROCESS, POWDER,	CATALYST; CHEMICAL TYPE, FOR PROCESS, POWDER FORM, 120 KG/DRUM, COMMON NAME - VANADIUM PENTOXIDE, 99.60% MIN, LOW ALKALI, MELTING POINT 690 DEG C COMPOSITION - A1203-0.006%, CUO-0.005% SPEC PACKING CODE 844405 APPLIES REQUIRES SAUDI ARAMCO HAZCOM LABEL IN MM# 1000644289	Chemicals
12511	6000016190	CATALYST, CHEMICAL, SUPERCLAUS SELECTIVE	CATALYST; ANY TYPE, CATALYST, CLAUS: FOR SULFUR PLANT AND TAIL GAS TREATING. CONVENTIONAL TYPE NORMALLY ACTIVATED ALUMINA, TITANIA OXIDE OR ALUMINA/TITANIA COMPOSITE TO PROMOTE CLAUS REACTION REACT H2S WITH SO2 TO PRODUCE SULFUR, OR HYDROLYSIS TYPE TO HYDROLYZE COS AND CS2 BACK TO H2S. TGT USED FOR REDUCTION OF TAIL GAS SO2 AND S TO H2S AND HYDROLYZE CS2 AND COS TO H2S USUALLY COBALT-MOLYBDENUM BASED CATALYST.	Chemicals
12521	6000016190	CATALYST, CHEMICAL, SUPERCLAUS SELECTIVE	CATALYST; ANY TYPE, CATALYST, CLAUS: FOR SULFUR PLANT AND TAIL GAS TREATING. CONVENTIONAL TYPE NORMALLY ACTIVATED ALUMINA, TITANIA OXIDE OR ALUMINA/TITANIA COMPOSITE TO PROMOTE CLAUS REACTION REACT H2S WITH SO2 TO PRODUCE SULFUR, OR HYDROLYSIS TYPE TO HYDROLYZE COS AND CS2 BACK TO H2S. TGT USED FOR REDUCTION OF TAIL GAS SO2 AND S TO H2S AND HYDROLYZE CS2 AND COS TO H2S USUALLY COBALT-MOLYBDENUM BASED CATALYST.	Chemicals
12537	6000001816	SOLVENT, METHYLDIETHANOLAMINE (MDEA)-BAS	ABSORBENT; ANY TYPE, ANY FORM, SOLVENT: FOR GAS AND NGL SWEETENING. INCLUDES CHEMICAL, PHYSICAL, HYBRID GENERIC AMINES OR PROPRIETARY CHEMICALS FOR SELECTIVE OR NON-SELECTIVE REMOVAL OF H2S, CO2, COS, CS2 OR RSH FROM SOUR HYDROCARBON.	Chemicals
12538	6000001816	SOLVENT, METHYLDIETHANOLAMINE (MDEA)-BAS	ABSORBENT; ANY TYPE, ANY FORM, SOLVENT: FOR GAS AND NGL SWEETENING. INCLUDES CHEMICAL, PHYSICAL, HYBRID GENERIC AMINES OR PROPRIETARY CHEMICALS FOR SELECTIVE OR NON-SELECTIVE REMOVAL OF H2S, CO2, COS, CS2 OR RSH FROM SOUR HYDROCARBON.	Chemicals
12553	6000001790	SOLID DESICCANT: DEHYDRATION GAS/LIQ HC	DESICCANT; SOLID DESICCANT TYPE, GR ANY, SOLID DESICCANT: TO REMOVE WATER FROM GAS OR LIQUID HYDROCARBON BY ADSORPTION. USUALLY ALUMINA BASED, MOLECULAR SIEVE, ACTIVATED ALUMINA OR SILICA GEL.	Chemicals
12563	6000016171	ADSORBENT: REMOVAL OF Hg, BTEX, HC	ABSORBENT; ANY TYPE, ANY FORM, ADSORBENT: FOR REMOVAL OF MERCURY, MERCAPTANS, HYDROCARBON (BTEX) OR VOLATILE ORGANIC COMPOUND FROM NATURAL GAS, HYDROCARBON CONDENSATE, LPG, NATURAL GASOLINE AND NAPHTHA AND WATER. IT INCLUDES ACTIVATED CARBON, SULFUR/POTASSIUM IODIDE IMPREGNATED CARBON, METAL SULFIDE OR METAL OXIDE.	Chemicals

Material Sourcing Gaps - China 2021

12573	6000017151	OIL, HEAT TRANSFER FLUID	OIL; HEATING TYPE,HEAT TRANSFER FLUID, (HEATING OIL OR HOT OIL),SYNTHETIC OR MINERAL BASE, FOR HYDROCARBON PROCESSING, LOW TEMPRATURE & HIGH TEMPERATURE HEAT TRANSFER FLUID SYSTEMS, USED AS HEAT TRNASFER SYSTEM	Chemicals
12583	6000003973	Sized metamorphic Marble 2	CHEMICAL; ANY MATERIALS USED TO PREVENT OR CURE LOSS CIRCULATION OR AS BRIDGING MATERIALS IN WATER BASED MUD, OIL BASED MUD AND BRINE.	Chemicals
11949	6000004047	Isolation packer expandable	PACKER; ANY TYPE,MECHANICAL, SWELLABLE, ISOLATION PACKERS	Drilling Equipment
11525	6000010711	ICD,4-1/2",NVAM,12.6#,EQUALIZER CFPLUS	EQUALIZER; ANY TYPE,EQUALIZER	Drilling Equipment
11535	6000004065	PBR/SEAL,4-1/2",VTHC,15.1#,125KSI,LOWER	PACKER PRODUCTION; PERMANENT TYPE,FOR H2S,WIRELINE SET AND HYDRAULIC SET ACTIVATI,ANY OD,ANY CONNECTN,KHUFF	Drilling Equipment
11545	6000010715	Tracer Subs system (3-1/2" & 4-1/2")	PACKER; ANY TYPE,EQUALIZER, SAND SCREENS, ACCESSORIES, VARIOUS	Drilling Equipment
11556	6000015783	KIT,7",VALVE+GRV PACKER+SEAL+MFIV	VALVE; ANY TYPE,SIZE ANY,ISOLATION VALVES AND ACCESSORIES	Drilling Equipment
11966	6000004055	13 3/8" DV TOOL HPHT 5K Multi stage cementing tools (DV) with "Mechanical non inflatable packer"	COLLAR PACKER; WITH MECHANICAL NON INFLATABLE PACKER TYPE,FOR CEMENTING TOOLS (DV),MULTI STAGE	Drilling Equipment
11977	6000010705	VALVE,ICV,3-1/2",NVAM,9.2#,13CR,HCM-A	ACCESSORY; ANY TYPE,SMART COMPLETION, ACCESSORIES, VARIOUS	Drilling Equipment
11989	0000000000	Wellhead Equipment MSG 6000, 6100, 6200, 6300	Wellhead Equipment	Drilling Equipment
12031	6000010715	Tracer Subs system (3-1/2" & 4-1/2")	PACKER; ANY TYPE,EQUALIZER, SAND SCREENS, ACCESSORIES, VARIOUS	Drilling Equipment
12032	6000010715	Tracer Subs system (3-1/2" & 4-1/2")	PACKER; ANY TYPE,EQUALIZER, SAND SCREENS, ACCESSORIES, VARIOUS	Drilling Equipment
12033	6000010715	Tracer Subs system (3-1/2" & 4-1/2")	PACKER; ANY TYPE,EQUALIZER, SAND SCREENS, ACCESSORIES, VARIOUS	Drilling Equipment
12034	6000010715	Tracer Subs system (3-1/2" & 4-1/2")	PACKER; ANY TYPE,EQUALIZER, SAND SCREENS, ACCESSORIES, VARIOUS	Drilling Equipment
12035	6000010715	Tracer Subs system (3-1/2" & 4-1/2")	PACKER; ANY TYPE,EQUALIZER, SAND SCREENS, ACCESSORIES, VARIOUS	Drilling Equipment
12036	6000010715	Tracer Subs system (3-1/2" & 4-1/2")	PACKER; ANY TYPE,EQUALIZER, SAND SCREENS, ACCESSORIES, VARIOUS	Drilling Equipment
11032	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
11041	6000015510	ANODE;GALVANIC,HIGH TEMPERATURE ZINC,CP	ANODE GALVANIC; HIGH TEMPERATURE ZINC,17-SAMSS-006,CATHODIC	Electrical
11042	6000015510	ANODE;GALVANIC,HIGH TEMPERATURE ZINC,CP	ANODE GALVANIC; HIGH TEMPERATURE ZINC,17-SAMSS-006,CATHODIC	Electrical
11053	6000012790	ANODE: GALVANIC, MAGNESIUM,CP	ANODE GALVANIC; MAGNESIUM,17-SAMSS-006,CATHODIC PROTECTION LARGE SIZE CYLINDRICAL, FOR OFFSHORE APPLICATION	Electrical
11062	6000012080	BOX: JUNCTION, FOR U/G ANODE BED,CP	BOX ELECTRICAL; CATHODIC PROTECTION UNDERGROUND ANODE BED JUNCTION BOX TYPE,SIZE 2500CM3 (MINIMUM),CYLINDRICAL OR BOX SHAPE,12X16MM2 AND 2X70MM2 CONNECTN,12+2 TERMINAL SCREW LUG COONECTN,FOR WEATHERPROOF (DIRECT BURIAL),NON-CLASSIFIED,NON-METALLIC SUITABLE FOR DIRECT BURIAL AND IMMERSION SERVICE IN AMBIENT TEMPERATURE SEAWATER,OPTIONAL FINISH,OPTIONAL THK,17-SAMSS-008 'JUNCTION BOX FOR CATHODIC PROTECTION',MEMBRANE GLANDS & FILLER/ SEALING COMPOUND SUITABLE FOR DIRECT BURIAL AND IMMERSION SERVICE IN AMBIENT TEMPERATURE SEAWATE	Electrical
11071	6000001011	POWER SUPPLY;ELECTRICAL;SOLAR,CP	POWER SUPPLY ELECTRICAL; CATHODIC PROTECTION POWER PLY ELECTRICAL SOLAR POWER TYPE,ANY POWER,ANY,17-SAMSS-012	Electrical
11082	6000000957	CABLE;ELECTRICAL, CP, OFFSHORE ANODE	CABLE ELECTRICAL; ANY SUPPLY,ANY CONDUCTO,ORED HODIC PROTECTION OFFSHORE TYPE,POWER TYPE,17-SAMSS-017,ARMORED	Electrical
11094	6000001040	ANODE GALVANIC;MAGNESIUM,WITHOUT LEAD,CP	ANODE GALVANIC; MAGNESIUM,17-SAMSS-006,CATHODIC PROTECTION WITHOUT LEADS	Electrical
11567	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
11577	6000016594	CAPACITOR BANK	UNIT; SHUNT CAPACITOR TYPE,43-TMSS-01,SAES-P-116,POWER FACTOR CORRECTION CAPACITOR BANK 4.16KV THROUGH 380KV	Electrical
11587	6000000919	SWITCHGEAR; LV CONTROLGEAR, FIREWATER PU	SWITCHGEAR; CONTROLGEAR,FIREWATER PUMP TYPE,ANY BIL,UL-218,LOW VOLTAGE,OUTDOOR	Electrical
11597	6000000920	SWITCHGEAR; HV CONTROLGEAR, FIREWATER PU	SWITCHGEAR; CONTROLGEAR,FIREWATER PUMP TYPE,ANY BIL,UL-218,HIGH VOLTAGE,OUTDOOR	Electrical
11607	6000000903	SWITCH; DISCONNECT; HIGH VOLTAGE;	SWITCH DISCONNECT; HIGH VOLTAGE,ANY ACTION,ELECTRICAL TYPE,30-TMSS-01	Electrical
11617	6000016991	UNIT; MOBILE SUBSTATION; 69KV AND BELOW	UNIT; MOBILE SUBSTATION TYPE,OPERATING AT 69KV AND BELOW	Electrical
11623	6000000774	TRAY; CABLE, FIBERGLASS	TRAY; CABLE TYPE,FIBERGLASS,NEMA FG-1,S-P-104 SEC. 9	Electrical
11634	6000000841	CIRCUIT BREAKER; AIR; 480 V; LOW VOLTAGE	CIRCUIT BREAKER AIR; ANY POLE,480 V,LOW VOLTAGE POWER TYPE,FRAME ANY,40 DEG C AMBIENT,FOR INDOOR,16-SAMSS-502	Electrical
11643	6000000999	FORM-WOUND BRUSHLESS SYNCH. MOTOR	MOTOR SYNCHRONOUS; 500 HP MINIMUM POWER,4000 V MINIMUM,3 PHASE PHASE,HORIZONTAL MTG,17-SAMSS-520	Electrical
11653	6000000803	CABLE,POWER,230 KV,L PRESSURE OIL FILLED	CABLE ELECTRICAL HIGH VOLTAGE; HIGH VOLTAGE SUPPLY,ANY CONDUCTO,PIPE OR SELF CONT OIL FILLED TYPE,HIGH MED OR LOW PRESSURE TYPE,AEIC CS9	Electrical
11663	6000000929	CABLEBUS 16-SAMSS-520	BUS; SIZE ANY,CABLE,16-SAMSS-520	Electrical
11673	6000003728	PANEL; HYDRAULIC; SSV & SSSV	PANEL; HYDRAULIC, SSV & SSSV TYPE,HYDRAULIC,SSV SSSV,AC APPLICATIONS 34-SAMSS-624,34-SAMSS-630	Electrical
11683	6000000897	PANELBOARD,LOW VOLTAGE, EXPLOSIONPROOF	PANELBOARD ELECTRICAL; ANY BREAKER,LOW VOLTAGE, EXPLOSIONPROOF TYPE,ANY,16-SAMSS-518	Electrical
11693	6000007258	RACK; SWITCHRACK;OUTDOOR;LOW VOLTAGE	RACK; SWITCHRACK,OUTDOOR,LOW VOLTAGE TYPE,16-SAMSS-512	Electrical
11703	6000000765	TRANSFORMER; DISTRIBUTION; 60; 30 DEG C	TRANSFORMER DISTRIBUTION; ANY POWER,60,ANY MTG,40 DEG C MAX AMB,CLASS OA,OIL INSUL,65 DEG C RISE,14-SAMSS-534,OVERHEAD	Electrical
11723	6000011391	RECTIFIER; IMPRESSED CURRENT; 17-SAMSS-0	RECTIFIER; TYPE CONSTANT VOLTAGE,TAP TYPE,17-SAMSS-004,FOR CATHODIC PROTECTION	Electrical
11733	6000000763	TRANSFORMER, POWER, DRY ABOVE 501 KVA	TRANSFORMER; ABOVE 501 KVA POWER, HIGH VOLT- DELTA , LOW VOLT - WYE TERMINAL,3 PHASE,60,DRY, POWER TYPE,14-SAMSS-533	Electrical
11743	6000012042	UPS SYS ABOVE 10 TO 200KVA FOR IT & COMM	POWER SUPPLY UNINTERRUPTIBLE; ABOVE 10 KVA UP TO 200 KVA POWER,17-SAMSS-516,SAES-P-103,MANUFACTURER STANDARD PRODUCT, IT & COMMUNICATION PRODUCT RANGE	Electrical
12618	6000000894	SWITCHGEAR: SF-6, 1 TO 36 KV	SWITCHGEAR; MANUALLY OPERATED TYPE,1 TO 36 KV,ANY BIL,PAD MTG,16-SAMSS-510,ANSI/IEEE OR IEC,SF-6,	Electrical
10999	6000001014	CP,POWER SUPPLY;RECTIFIER;IMPRESSED CURR	RECTIFIER IMPRESSED CURRENT; HODIC PROTECTION SE CONTROL TYPE,ANY OUTPUT,17-SAMSS-005	Electrical

Material Sourcing Gaps - China 2021

11111	600000761	TRANSFORMER, DISTRIBUTION, PAD MOUNTED	TRANSFORMER DISTRIBUTION; ANY POWER,HV - DELTA, LV - WYE TERMINAL,3 PHASE,5 TAPS,60,PAD MTG,40 DEGREE C MAX AMB,CLASS OA,OIL INSUL,65 DEGREE C RISE,14-SAMSS-536	Electrical
11112	600000761	TRANSFORMER, DISTRIBUTION, PAD MOUNTED	TRANSFORMER DISTRIBUTION; ANY POWER,HV - DELTA, LV - WYE TERMINAL,3 PHASE,5 TAPS,60,PAD MTG,40 DEGREE C MAX AMB,CLASS OA,OIL INSUL,65 DEGREE C RISE,14-SAMSS-536	Electrical
11713	6000002725	ESD; ELECTRONIC; SOLID STATE	RELAY PROTECTION SOLID STATE; ANY COIL,ANY CONTACT,ANY TYPE,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
11752	6000002786	MONITOR; GAS; HYDROGEN SULFIDE;	MONITOR GAS; HYDROGEN SULFIDE,ANY RANGE,34-SAMSS-514	Instrumentation and IT
11762	6000001582	CONTROLLER; ELECTRONIC;COMPRESSOR	CONTROLLER; COMPRESSOR INCLUDING SURGE CONTROL TYPE,ANY RANGE,SPECIALIZED CONTROL SYSTEMS	Instrumentation and IT
11773	6000002782	MONITOR; GAS; COMBUSTIBLE	MONITOR GAS; COMBUSTIBLE,ANY RANGE,34-SAMSS-514	Instrumentation and IT
11782	6000014614	CUSTODY TANK GAUGING SYSTEM, RADAR	GAUGE TANK LEVEL; RADAR CUSTODY TRANSFER TYPE,ANY RANGE,34-SAMSS-321,SAES-Y-301,RADAR TANK GAUGING SYSTEMS FOR CUSTODY TRANSFER	Instrumentation and IT
11792	6000008342	UNIT; REMOTE TERMINAL TYPE	UNIT; REMOTE TERMINAL TYPE,REMOTE TERMINAL,23-SAMSS-030	Instrumentation and IT
11800	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
11809	6000002822	GAUGE; RADAR; TANK GAUGING;	GAUGE; RADAR TYPE,ANY RANGE,34-SAMSS-319,TANK GAUGING EQUIPMENT FOR INVENTORY TANK USE ONLY.	Instrumentation and IT
11818	6000009918	CUSTODY SYS TRUCK UNLOADING, POS DISP	SYSTEM:METERING; CUSTODY TRANSFER METERING TYPE,34-SAMSS-168,TRUCK UNLOADING, POS DISP	Instrumentation and IT
11828	6000002787	MONITOR; GAS; COMBUSTIBLE; OPEN PATH TYP	MONITOR GAS; COMBUSTIBLE,ANY RANGE,34-SAMSS-514,OPEN PATH TYPE	Instrumentation and IT
11838	6000002689	CALIBRATION GAS CYLINDER FOR GAS MONITOR	CYLINDER; CALIBRATION GAS TYPE,SIZE ANY,ANY,FOR COMBUSTIBLE & TOXIC GAS MONITORS ONLY	Instrumentation and IT
11848	6000002764	INSTRUMENT; LEVEL; RADIATION TYPE	INSTRUMENT; LEVEL TYPE,LEVEL,RADIATION TYPE	Instrumentation and IT
11858	6000014893	FIBER OPTIC SENSING PLDS	DETECTOR LEAK; FIBER OPTIC TYPE, FOR PIPELINE,SAES-Z-003,THE FIBER OPTIC CABLE SENSING METHOD ANALYSES THE HEAT/TEMP AND THE CONDUCTIVITY OF THE CABLE TO DETECT THE LEAK OCCURS. FOR PIPELINE LEAK DETECTION SYSTEM (PLDS) APPLICATIONS.	Instrumentation and IT
11868	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
11878	6000009906	CUSTODY PRESET CONTROLLER, TRUCK LOADING	COMPUTER FLOW; CUSTODY PRESET CONTROLLER TYPE,34-SAMSS-847,FOR TRUCK LOADING AND UNLOADING SYSTEMS	Instrumentation and IT
11888	6000001216	CABLE; COMMUNICATIONS; FIBER OPTIC	CABLE COMMUNICATIONS; ANY CONDUCTO,FIBER OPTIC TYPE,18-SAMSS-625	Instrumentation and IT
11898	6000010821	ACTUATOR: VALVE; ELECTRIC FAILSAFE	ACTUATOR VALVE ELECTRIC; SIZE ANY,ANY ACTION,34-SAMSS-716,ELECTRIC ACTUATOR FOR OPERATING VALVE, FAILSAFE DESIGN	Instrumentation and IT
11908	6000002914	ANALYZER; GAS CHROMATOGRAPH; Sheltered	ANALYZER; GAS CHROMATOGRAPH TYPE,ANY RANGE,34-SAMSS-510,PROCESS GAS OR LIQUID	Instrumentation and IT
11918	6000002886	GAUGE; LEVEL; GLASS	GAUGE LEVEL; GLASS TYPE,34-SAMSS-010,WITH BACKFLOW PREVENTER VALVE OR CHECK VALVE AS ASSEMBLY IF REQUIRED.	Instrumentation and IT
11927	6000014021	Analyzer; Physical Property	ANALYZER; PHYSICAL PROPERTY TYPE,ANY RANGE,(EXAMPLE: BOILING POINT, FLASH POINT, POUR POINT, CFPP, RVP, COLOR, CLOUD POINT, FREEZE POINT, OCTANE, AND VISCOSITY)	Instrumentation and IT
11936	6000009890	CUSTODY PROVER, SMALL VOLUME, UNI PISTON	METER; UND PISTON(SMALL VOLUM) PROVER TYPE,34-SAMSS-119,FOR LIQUID CUSTODY TRANSFER	Instrumentation and IT
11952	6000009832	CUSTODY METER, POS DISPL , LIQUID	FLOWMETER POSITIVE DISPLACEMENT; CUSTODY TRANSFER LIQUID TYPE,ANY,34-SAMSS-118	Instrumentation and IT
12014	6000009881	Custody Meter, Multi-Path, Ultrasonic Liquid	FLOWMETER; CUSTODY TRANSFER LIQUID TYPE,CUSTODY TRANSFER LIQUID	Instrumentation and IT
12054	6000009893	CUSTODY AUTOMATIC SAMPLING, LIQUID	SAMPLER; CUSTODY TRANSFER TYPE,34-SAMSS-525	Instrumentation and IT
12076	6000009895	CUSTODY DENSITY METER, LIQUID	METER DENSITY; CUSTODY TRANSFER LIQUID TYPE,34-SAMSS-510	Instrumentation and IT
12086	6000009898	CUSTODY CHROMATOGRAPH, GAS OR LIQUID	CHROMATOGRAPH PROCESS; FOR CUSTODY TRANSFER CHROMOTOGRAPHY,ANY DETECTOR,ANY CARRIER,34-SAMSS-510	Instrumentation and IT
12280	6000013921	ANALYZER, Proc Photometer/Spectrometer	ANALYZER; ANY RANGE,34-SAMSS-515,PROCESS PHOTOMETERS AND SPECTROMETERS INCLUDING TUNABLE DIODE (EXTRACTIVE)	Instrumentation and IT
12301	6000014890	REAL-TIME TRANSIENT MODEL PLDS	DETECTOR LEAK; RTTM METHODS TYPE, FOR PIPELINE,SAES-Z-003,SYSTEMS USE MATHEMATICAL MODELS OF THE FLOW WITHIN A PIPELINE TO DETECT THE LEAK. FOR PIPELINE LEAK DETECTION SYSTEM (PLDS) APPLICATIONS.	Instrumentation and IT
12311	6000014891	ACOUSTIC PRESSURE WAVES PLDS	DETECTOR LEAK; NEGATIVE PRESSURE WAVE (ACOUSTIC) TYPE, FOR PIPELINE,SAES-Z-003,THE ACOUSTIC PRESSURE WAVE METHOD ANALYSES THE RAREFACTION WAVES PRODUCED WHEN A LEAK OCCURS. FOR PIPELINE LEAK DETECTION SYSTEM (PLDS) APPLICATIONS.	Instrumentation and IT
12321	6000002732	MONITOR; FLAME MONITORING SYSTEM	MONITOR; IGNITERS AND BURNERS USED E MONITORING SYSTEM D IN FIRED EQUIPMENT. TYPE,ANY RANGE,34-SAMSS-617	Instrumentation and IT
12330	6000002856	VALVE; AUTOMATIC RECIRCULATION;	VALVE; AUTOMATIC RECIRCULATION TYPE,SIZE ANY,34-SAMSS-711	Instrumentation and IT
12339	6000010782	CONTROLLER; SMART VALVE POSITION TYPE	CONTROLLER; SMART VALVE POSITION TYPE,ANY RANGE,34-SAMSS-634,FOR USE WITH EMERGENCY SHUTDOWN VALVES.	Instrumentation and IT
12349	6000009901	CUSTODY FLOW COMPUTER, LIQUID, FIELD-MNT	COMPUTER FLOW; FIELD MOUNTED TYPE,34-SAMSS-841,34-SAMSS-846,FOR LIQUID AND GAS CUSTODY TRANSFER	Instrumentation and IT
12359	6000002896	VALVE; RELIEF; SURGE GAS LOADED	VALVE RELIEF; SIZE ANY,ANY END CONN,ANY SUPPLY,ANY,SAES-J-605,SURGE GAS LOADED TYPE.	Instrumentation and IT
12369	6000013000	Multiplexer; Foundation Fieldbus (FF)	MULTIPLEXER; FOUNDATION FIELDBUS (FF) TYPE,SAES-J-904,AA MULTI-INPUT TEMPERATURE	Instrumentation and IT
12379	6000010781	FOUNDATION FIELDBUS (FF) BLOCKS	BLOCK; FOUNDATION FIELDBUS(FF) WIRING TYPE,INCLUDING POWER SUPPLIES, FOR USE WITH FOUNDATION FIELD-BUS INSTRUMENTS ONLY	Instrumentation and IT
12389	6000002720	ANALYZER; DENSITY METER; GAS AND LIQUID	ANALYZER; DENSITY METER TYPE,ANY RANGE,34-SAMSS-510,GAS AND LIQUID SERVICE	Instrumentation and IT
12399	6000000221	TUBING; INSTRUMENTATION; METALLIC	TUBING; INSTRUMENTATION TYPE,STAINLESS STEEL OR NICKEL ALLOYS,ASTM A269,WITH SIZE 3/4 INCH (18 MM) OR SMALLER.	Instrumentation and IT
12409	6000009899	CUSTODY FLOW COMPUTER, LIQUID, PANEL-MNT	COMPUTER FLOW; PANEL MOUNTED TYPE,34-SAMSS-841,FOR LIQUID CUSTODY TRANSFER	Instrumentation and IT
12419	6000009831	CUSTODY METER, TURBINE, LIQUID	FLOWMETER TURBINE; CUSTODY TRANSFER LIQUID TYPE,ANY,34-SAMSS-117	Instrumentation and IT
10883	6000001829	COIL; REFRIGERATION;HVAC USE	COIL; COIL, REFRIGERATION, HOT/CHILLED WATER APPLICATIONS TYPE,AHRI 410 CERTIFIED	Others
10901	6000001846	HEATER; DUCT; ELECTRIC;	HEATER DUCT; ELECTRIC ELEMENT,ANY	Others

Material Sourcing Gaps - China 2021

10928	6000001882	AIR CONDITIONING UNIT; DIRECT EXPANSION;	AIR CONDITIONING UNIT; DIRECT EXPANSION TYPE,27-SAMSS-002,UL-1995 AHRI-210/240 (< 5.5 TON),AH,HVAC/REFRIGERATION:SYSTEMS FOR PROCESS AND OFFSHORE APPLICATIONS	Others
10945	6000013330	FILTER, AIR, CHEMICAL	FILTER; ANY TYPE, FOR AIR, CHEMICAL, ISA S71.04, ASTM-D6646 OR ASHRA	Others
10954	6000002419	Water Filter Media	FILTER; SAND BED TYPE, FOR WATER SERVICE, FILTER MEDIA, WATER, 32-SAMSS-034, WATER FILTER MEDIA INCLUDING: SAND, ANTHRACITE, MANGANESE GREEN SAND, BERM, GARNET, GRAVEL (AS SUPPORTING LAYER). MERGE WITH 6000001776, 6000001777, 6000002510	Others
10971	6000008724	PRELIMINARY TREATMENT/SW SCREENING SYS	SCREEN; PRELIMINARY TREATMENT/SEAWATER SCREENING SYSTEMS TYPE, WASTEWATER	Others
10979	6000012705	Oil Skimmer	UNIT; OIL SKIMMER TYPE, OIL/WATER-OIL SKIMMERS: A DRUM, DISK SURFACE OIL SKIMMER, OR DOUBLE ARM INTERNAL FLOAT OIL SKIMMER THAT REMOVES SURFACE OILS FLOATING ON OILY WATER RELY ON ADHESION OF OIL TO THE SURFACE OF THE MECHANISM.	Others
10988	6000008555	Thermal & Electro-dialysis Desal Sys	DESALINATION; THERMAL & ELECTRO-DIALYSIS DESALINATION SYSTEMS TYPE, REVERSAL (EDR) EQUIPMENT	Others
11125	6000001310	HYDRANT FIRE; 5 IN INTEGRATED NOZZLE X 2-1/2 IN NPT (2 EA) MAIN	HYDRANT FIRE; 6 IN INLET, PR 200 PSI WP, UL OR/AND FM, COMPLYING WITH 21-SAMSS-15. WITH OR WITHOUT FIRE MONITOR FLANGE. WITH OR WITHOUT BREAKABLE FLANGE CHECK VALVE ASSEMBLY. FOR BREAKABLE FLANGE VALVE SEPARATELY. PURCHASE ORDER MUST SPECIFY THE OPTIONS AS PER 21-SAMSS-15.	Others
11132	6000001314	MONITOR; FIREFIGHTING, HYDRANT-MOUNTED TYPE, UL/FM	MONITOR; FIREFIGHTING, HYDRANT-MOUNTED TYPE, ANY RANGE, MEETING 21-SAMSS-16, INDUSTRIAL MONITOR SYSTEM, WILL BE INSTALLED ON#9COM 6000001310	Others
11139	6000001331	BARRIER; FIRE STOPPING; MULTI-CABLE	BARRIER; FIRE STOPPING TYPE, BARRIERS, MULTI-CABLE TRANSIT SYSTEM INCLUDING PUTTY, MORTAR, PILLOWS, CAULKING, SEALANTS, TAPE, SPRAYS OR OTHER SYSTEMS. MUST COMPLY WITH ANSI/UL 1479, ASTM E 814, NFPA/NEC 70, ASTM E 119 AND HAVE MINIMUM F RATING OF 2 HOURS, T RATING OF 1 HOUR, AND MINIMUM L RATING OF LESS THAN 1 HOUR. MUST BE UL/FM LISTED OR APPROVED.	Others
11147	6000014422	MONITOR; FIREFIGHTING, REMOTE CONTROL TYPE, ELECTRICALLY OPERATED	MONITOR; FIREFIGHTING, REMOTE CONTROL TYPE, ANY RANGE, ELECT OR HYDRAULIC OPERATED SUPPLY, MEETING 21-SAMSS-16, FULL SYSTEM FULL CONTROL INDUSTRIAL APPLICATIONS MEETING PROJECT SPECS	Others
11155	6000002872	VALVE; DIFFERENTIAL DIAPHRAGM TYPE, DELUGE FLOOD	VALVE; DIFFERENTIAL DIAPHRAGM TYPE, SIZE ANY, DELUGE FLOOD	Others
11163	6000002696	PANEL CONTROL; FIRE PUMP TYPE, UL/FM LISTED/APPROVED, COMPLY	PANEL CONTROL; FIRE PUMP TYPE, UL/FM LISTED/APPROVED, COMPLY W, TYPE, UL-LISTED OR FM APPROVED, PANELS SHALL BE LISTED FOR +50 DEG. CELSIUS, ENCLOSURE MUST BE NEMA 250/NEMA TYPE 4 FOR ONSHORE AND NEMA TYPE 4X FOR OFFSHORE AND NEAR SHORE ENVIRONMENT OUTDOOR WITH SHELTER INSTALLATION, INDOOR WITH AIR-CONDITIONED INSTALLATIONS ARE ALLOWED TO BE ONLY UL/FM APPROVED WITHOUT 50 DEGREES/NEMA 4/4X ENCLOSURE, ALL PANELS MUST BE CAPABLE OF PROVIDING THE PUMPS SEQUENCING FUNCTIONS IN SAES-B-017, CONTACT FRPD RSA FOR DETAILS	Others
11192	6000000409	Hose; High pressure 500 psig and greater	HOSE; SIZE ANY, FOR GENERAL PURPOSES, PR HIGH PRESSURE 500 PSIG AND GREATER, REINFORCED NATURAL OR SYNTHETIC RUBBER, SAE 100R, FOR GENERAL PURPOSES SUCH AS OIL AND WATER-BASED FLUIDS, PNEUMATIC APPLICATIONS, LOW PRESSURE HYDRAULIC, LUBRICATING FLUIDS, WATER# ETC.	Pipe & OCTG
11176	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
11182	6000014681	SERVICE: WET -TYPE COMPOSITE REPAIR EXT.	SERVICE; WET-TYPE THERMOSET COMPOSITE FIBER REINFORCED COMPOSITE. TYPE, SAEP-345, ASME-PCC2 ISO 24817, USE FOR WATER, HYDROCARBON, CHEMICALS PLANT PIPING AND PIPELINES. SUITABLE FOR EXTERNAL CORROSION UP TO 80 PERCENT METAL LOSS. FOR PLANT PIPING AND FITTINGS, IT SHALL BE UTILIZED AS A TEMPORARY REPAIR WITH A PRIOR APPROVAL FROM NONMETALLIC SCC.	Pipe & OCTG
11187	6000013900	PIPE; NON-METAL; LINED PIPING SYSTEMS	PIPE NON-METALLIC; SIZES RANGES FROM NPS 1 TO 20 NPS, ASME/ANSI CLASS 150 AND 300 SUPPLY, CARBON STEEL, NGED PIPE&FITTINGS SYSTEM VY DUTY PTFE& PFA LINED, 01-SAMSS-025, CORROSIVE FLUIDS INCLUDING ACIDS AND ALKALINE SOLUTIONS SUCH AS HYDROCHLORIC ACID, NITRIC ACID, PHOSPHORIC ACID, CHLORINE/WATER, HYDRAULIC OIL, HYPOCHLORITE (SODIUM OR CALCIUM), SODIUM HYDROXIDE (CAUSTIC SODA), WATER, SEA/SALINE, WATER, AERATED AQUIFER, DESALINATION BRINE, PRODUCED WATER, DISPOSAL SALT, WATER BRINE.	Pipe & OCTG
11199	6000015710	SERVICE: WET-TYPE; COMPOSITE REPAIR, INT	SERVICE; WET-TYPE THERMOSET COMPOSITE FIBER REINFORCED TYPE, SAEP-345, ASME-PCC2 ISO 24817, USE FOR WATER, HYDROCARBON, CHEMICALS PLANT PIPING AND PIPELINES. SUITABLE FOR INTERNAL CORROSION UP TO 80 PERCENT METAL LOSS PROVIDED THAT CORROSION SOURCE IS MITIGATED. FOR PLANT PIPING AND FITTINGS, IT SHALL BE	Pipe & OCTG
11208	6000017500	UNIT, METALLIC 3DPRINTING/ADDITIVE MANUF	UNIT; METALLIC 3DPRINTING/ADDITIVE MANUFACTURING INCLUDING ALL TYPE OF STEEL (E.G. INCONEL, TITANIUM, STAINLESS STEEL) TYPE, ANY METALLIC 3D PRINTED PRODUCT INCLUDING NEW PARTS MANUFACTURING, PART MODIFICATION AND REPAIR. METALLIC PART SUCH AS ROTATING EQUIPMENT, STATIC EQUIPMENT AND DRILL EQUIPMENT	Rotating Equipment
11215	6000002244	COMPRESSOR; AIR; CENTRIFUGAL; INTEGRALLY	COMPRESSOR AIR; CENTRIFUGAL, INTEGRALLY GEARED TYPE, 31-SAMSS-006	Rotating Equipment
11221	6000002351	PUMP; CENT, INLINE, ASMEB73.2 OR ISO5199	PUMP CENTRIFUGAL; INLINE TYPE, SIZE ANY, ANY, SINGLE STAGE(S), VERTICAL MTG, ASME B73.2 OR ISO 5199	Rotating Equipment
11230	6000002363	PUMP; ROTARY; PROGRESSIVE CAVITY;	PUMP ROTARY; PROGRESSIVE CAVITY TYPE, ANY, API 676	Rotating Equipment
11238	6000002365	PUMP; VACUUM; API 681, HIGH POWER	PUMP; VACUUM TYPE, ANY, API 681, HIGH POWER, LIQUID RING VACUUM PUMPS OR COMPRESSORS	Rotating Equipment
11246	6000002371	PUMP; CENTRIFUGAL; VERTICAL; MOLTON SULFUR	PUMP CENTRIFUGAL; VERTICAL TYPE, SIZE ANY, ANY, SINGLE STAGE(S), MFR STD DESIGN +SAES-G-005, MOLTEN SULFUR, SUMP	Rotating Equipment
11256	6000002417	FILTER; ELEMENT; COMBUSTION GAS TURBINE;	FILTER ELEMENT; FOR COMBUSTION GAS TURBINE, 32-SAMSS-008, AIR INLET, FINAL STAGE	Rotating Equipment
11263	6000002453	Mixer; Side Entry; 32-Samss-017; Geared;	MIXER; SIDE ENTRY TYPE, 32-SAMSS-017, GEARED, ELECTRIC DRIVEN	Rotating Equipment
11271	6000008842	PUMP, CENTRIFUGAL, HORIZONTAL, MOLTEN SU	PUMP CENTRIFUGAL; HORIZONTAL TYPE, SIZE ANY, ANY, SINGLE STAGE(S), MFR STD DESIGN +SAES-G-005, MOLTEN SULFHUR	Rotating Equipment
11280	6000010363	PUMP; MULTIPHASE, HELICO-AXIAL TYPE, ANY, 31-SAMSS-004	PUMP; MULTIPHASE, HELICO-AXIAL TYPE, ANY, 31-SAMSS-004	Rotating Equipment
11289	6000016780	EJECTOR; PROCESS GAS	EJECTOR; GAS OR LIQUID, ANY PROCESS, ANY, NACE MR-0175/ISO-15156, EJECTOR PACKAGE FOR PROCESS GAS COMPRESSION. NOT FOR STEAM-VACUUM SERVICES.	Rotating Equipment

Material Sourcing Gaps - China 2021

10846	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
10855	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
10864	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
10872	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
10910	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
10919	6000001881	AIR CONDITIONING UNIT; AIRCONDIONING AND	AIR CONDITIONING UNIT; AIRCONDIONING AND PROCESS REFRIGERATION SYSTEMS TYPE,ONSHORE ALL SIZES, OFFSHORE LESS THAN 10 TONS. COOLING,AHRI-210/240 (< 5.5 TONS),AHRI,EXPLOSION PROOF	Static Equipment
10936	6000002404	TOWER; COOLING; WATER;	TOWER COOLING; WATER TYPE,27-SAMSS-003,ASHRAE 90.1	Static Equipment
10962	6000002515	SKID WATER DISINFECTION SYSTEMS	GENERATOR; WATER DISINFECTION TYPE,HYPOCHLORITE,WATER DISINFECTION SYSTEMS INCLUDING: HYPOCHLORINATION, CHLORINE SYSTEMS, CHLORINE DIOXIDE, BROMINE SYSTEMS, UV SYSTEMS, OZONE SYSTEMS, ANY OTHER DISINFECTING SYSTEMS. MERGE WITH 6000002517.	Static Equipment
10963	6000002515	SKID WATER DISINFECTION SYSTEMS	GENERATOR; WATER DISINFECTION TYPE,HYPOCHLORITE,WATER DISINFECTION SYSTEMS INCLUDING: HYPOCHLORINATION, CHLORINE SYSTEMS, CHLORINE DIOXIDE, BROMINE SYSTEMS, UV SYSTEMS, OZONE SYSTEMS, ANY OTHER DISINFECTING SYSTEMS. MERGE WITH 6000002517.	Static Equipment
11297	6000000066	TUBING; COPPER-ALLOY; EEMUA; ASTM	TUBING; ANY TYPE,COPPER-ALLOY, INCLUDING COPPER NICKEL (90-10, 70-30, C70600, OR C71500),EEMUA144,ASTMB466 ASTMB111	Static Equipment
11311	6000000181	FLANGE; PIPE; COPPER NICKEL, EEMUA 145	FLANGE PIPE; ALL DESIGNS TYPE,ANY NPS,ANY,EEMUA 234,COPPER-ALLOY FLANGES AND CS BACKING (LAP JOINT) FLANGES PER EEMUA 234. OR OTHER COPPER ALLOYS AS PER ASME 16.5, PIPE FLANGES AND FLANGED FITTINGS, UTILITY, NON-HYDROCARBON.	Static Equipment
11318	6000000245	VALVE; BALL; TOP ENTRY, RISING STEM	VALVE, BALL; SIZE ALL,ALL SUPPLY,FLANGED OR BUTTWELD END CONN,STEEL BODY,STYLE TOP ENTRY, RISING STEM-,SINGLE, METAL SEATED SEAT,04-SAMSS-035,04-SAMSS-048 SAMSS-051,API-6D,WITH OR WITHOUT ACTUATOR	Static Equipment
11326	6000000254	VALVE; BALL; SCRAPER LAUNCHING; STEEL	VALVE, BALL; SIZE ANY,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
11335	6000000275	VALVE; CHECK;SWING;UP TO 12 IN; CI OR DI	VALVE CHECK; SIZE UP TO 12 INCH,CAST OR DUCTILE IRON BODY,SWING,FLANGED, LUG OR WAFER END CONN,04-SAMSS-035,04-SAMSS-048 04-SAMSS-005	Static Equipment
11340	6000000292	VALVE; GATE; UP TO 12 INCH; NON-FERROUS;	VALVE GATE; SIZE UP TO NPS 12,ANY RATING, ALLEND'S SUPPLY,NON-FERROUS, (BRONZE/ALUMINUM-BRONZE BODY,04-SAMSS-035,04-SAMSS-048 04-SAMSS-001,WITH OR WITHOUT ACTUATOR	Static Equipment
11344	6000000296	VALVE; GATE; WEDGE OR DBL DISC; UP TO 12	VALVE GATE; SIZE UP TO NPS 12,ANY RATING, ALLEND'S SUPPLY,CAST OR DUCTILE IRON BODY,04-SAMSS-035,AWWA,WITH OR WITHOUT ACTUATOR	Static Equipment
11349	6000000297	VALVE GATE; SIZE NPS 14 AND ABOVE	VALVE GATE; SIZE NPS 14 AND ABOVE,ANY RATING, ALLEND'S SUPPLY,CAST OR DUCTILE IRON BODY,04-SAMSS-035,AWWA,WITH OR WITHOUT ACTUATOR	Static Equipment
11354	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 PSJ,FLANGED HUBBED OR BUTTWELD END CONN,STEEL BODY,04-SAMSS-055,API 6A,WITH OR WITHOUT ACTUATOR	Static Equipment
11360	6000000317	VALVE; PLUG; 4-WAY DIVERTER; 2 THRU 24	VALVE PLUG; 4-WAY DIVERTER TYPE,SIZE NPS 2 THRU 24,ASME CLASS 150 THRU 600 SUPPLY,FLANGED OR BUTTWELD END CONN,STEEL BODY,04-SAMSS-042,04-SAMSS-035 04-SAMSS-048,WITH OR WITHOUT ACTUATOR	Static Equipment
11368	6000002393	BOILER; FIRE TUBE; AND COMONENTS	BOILER; FIRE TUBE AND COMPONENTS TYPE,32-SAMSS-021	Static Equipment
11373	6000002398	BURNER; SAES-F-01;	BURNER; ANY TYPE,SAES-F-01	Static Equipment
11385	6000002481	TANK; FIBER GLASS; 32-SAMSS-002	TANK; ANY TYPE,ANY,FIBER GLASS,32-SAMSS-002	Static Equipment
11390	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
11395	6000002748	IGNITER	IGNITER; FLARE TYPE,FLARE	Static Equipment
11403	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
11409	6000009414	VALVE, SANDWICH, 2 IN. AND UP, ASME CLAS	VALVE; GATE, SANDWICH TYPE,SIZE NPS 2 AND UP, STEEL,ASME CLASS 150 AND UP SUPPLY,FLANGE END CONN,04-SAMSS-035,04-SAMSS-048	Static Equipment
11415	6000009454	VALVE,CHECK,14 IN &UP,CAST OR DUCTILE IR	VALVE CHECK; SIZE 14 IN. AND UP,ANY SUPPLY,CAST OR DUCTILE IRON BODY,SWING,FLANGED, LUG OR WAFER END CONN,04-SAMSS-035,04-SAMSS-048	Static Equipment
11421	6000011206	SKID; FILTRATION SYSTEM	SKID; 32-SAMSS-038 (IF SKID),DESIGN,ASSEMBLY AND DESIGN OF FILTRATION SYSTEM (HYDROCARBON SERVICE) OIL /GAS/WATER STREAM	Static Equipment
11427	6000011955	SKID; THERMAL OXIDIZER	FURNACE; BUSTION CHAMBER FABRICATORS RMAL OXIDIZER EQUIPMENT TYPE,INCLUDING BURNER	Static Equipment
11435	6000013010	VALVE; GATE, GLOBE&CHECK, CRYOGENIC	VALVE GATE; GLOBE&CHECK, CRYOGENIC TYPE,SIZE ANY SIZE,ANY RATING SUPPLY,ANY BODY,04-SAMSS-035,04-SAMSS-048 04-SAMSS-001,04-SAMSS-002 04-SAMSS-005,AS APPLICABLE FOR THE VALVE TYPE, INCLUDING THE ADDITIONAL REQUIREMENTS IN THE CRYOGENIC APPENDICES.	Static Equipment
11442	6000013091	TUBE; CATALYST, ASSEMBLIES	TUBE; CATALYST ASSEMBLIES TYPE,CENTRIFUGAL CAST. HYDROCARBON	Static Equipment
11449	6000013742	VALVE; BALL; DOUBLE ISOLATION TWIN	VALVE, BALL; SIZE UP TO 24 IN,ANSI CL 150 AND UP SUPPLY,FLANGED OR BUTTWELD END CONN,ANY BODY,STYLE SPLIT BODY,TRUNNION SUPPORTED SUPPORT,04-SAMSS-048,04-SAMSS-035 04-SAMSS-051,DOUBLE ISOLATION TWIN BALL WITH OR WITHOUT ACTUATOR	Static Equipment
11455	6000014202	FITTING; PIPE; CUNI;ALL TYPES;EEMUA 146	FITTING; PIPE; EEMUA 234,CUNI PIPE FITTINGS, ALL TYPES, INCLUDING ELBOWS, TEES, REDUCERS, CAPS, COUPLING, BRANCH CONNECTION, BW OR SW OR THREADED AS PER EEMUA 234. NON-HYDRCARBON UTILITY.	Static Equipment

Material Sourcing Gaps - China 2021

11463	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
11471	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
11478	6000015021	VALVE: CHECK; API 6A 10,000; SWING	VALVE CHECK; SIZE 1-13/16 IN AND UP, API 10000 SUPPLY, STEEL BODY, SWING, FLANGED HUBBED OR BUTT-WELD END CONN, 04-SAMSS-055, API 6A	Static Equipment
11486	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
11492	6000015604	VALVE; CHOKE; MS; UP TO 6 IN, 2K-5KPSI, API 6A	VALVE CHOKE; ANY BODY, UP TO 6 INCH MAX ORIFICE, PR 2000-5000 PSI SUPPLY, FLANGED HUBBED OR BUTTWELD END CONN, ANY BODY, MULTISTAGE TRIM, 04-SAMSS-055, API 6A	Static Equipment
11500	6000017141	INLINE MIXING SKID;	SKID; VALVE/SPOOL TYPE, SAES-A-010, 01-SAMSS-010 04-SAMSS-01/02/048, SAES-W-0 ANSI B31.3, SAES-J-700, INLINE HIGH EFFICIENCY MIXER PACKAGE, ADJUSTABLE OR STATIC, TYPICALLY HAS PIPE & FITTINGS, INJECTION CONE AND INJECTION PIPE SPOOL, INJECTION QUILL, HOUSING. INTERNAL MIXING PARTS COULD BE FOR SOUR OR NON-SOUR SERVICE 8-32 NPS PRODUCT RANGE, ANSI FLANGE 150# TO 900#. FOR MIXING OIL WITH WATER OR CHEMICALS. FABRICATION WITH APPROVED MANUFACTURER	Static Equipment
11508	6000017431	UNIT, CENTRIFUGE PACKAGE (VERTICAL OR HO	UNIT; CENTRIFUGE PACKAGE (VERTICAL OR HORIZONTAL) TYPE, DEVICE/PACKAGE USED TO SEPARATE TWO OR THREE PHASES FROM EACH OTHER BY CENTRIFUGAL FORCE OR ROTATION. APPLIES SEDIMENTATION PRINCIPLE TO SEPARATE HEAVIER/DENSER SUBSTANCE/PARTICLE FROM LESS DENSE FLUID SEPARATION OF WATER FROM OIL, OIL FROM WATER, SOLIDS FROM OIL, SOLIDS FROM LIQUIDS (WATER AND GLYCOL) OR THREE PHASE SEPARATION (SOLIDS, WATER, OIL)	Static Equipment
11517	6000017260	SKID, NITROGEN; PRESSURE SWING ADSORPTIO	SKID; NITROGEN ADSORPTION (PSA) SSURE SWING TYPE, 32-SAMSS-038, NITROGEN GENERATION UNIT, PSA (PRESSURE SWING ADSORPTION) TYPE. USES ADSORBENT SUCH AS CARBON MOLECULAR SIEVE. MORE THAN 95% VOLUME PURITY NITROGEN	Static Equipment
12594	6000017340	VALVE, BALL; SIZE UP TO NPS 12 INCH, ANY SUPPLY	VALVE, BALL; SIZE UP TO NPS 12 INCH, ANY SUPPLY, ANY END CONN, DUCTILE OR CAST IRON BODY, 04-SAMSS-035 04-SAMSS-048 AWWA OR OTHER EQUIVALENT, 2 OR 3 WAY, WITH OR WITHOUT ACTUATOR	Static Equipment
12603	6000000308	VALVE; PLUG; LUBRICATED	VALVE PLUG; LUBRICATED TYPE, SIZE ANY SIZE, ANY PRESSURE RATING SUPPLY, ANY END CONN, STEEL BODY, 04-SAMSS-035, 04-SAMSS-048 04-SAMSS-053, 04-SAMSS-055 ASME B16.34, API 599 API 6A, WITH OR WITHOUT ACTUATOR, ASME CLASS 150 AND UP, API 2000 TRHU 5000.	Static Equipment
12612	6000017570	BURNER, BOILER, STEAM GENERATOR	BURNER; BOILER, STEAM GENERATOR TYPE, SIZE ANY, ANY SHAPE, ANY	Static Equipment