

Material	Region	Description	Long description	MSG	Commodity	Note	9CAT
6000016483	East Europe	Divalent brines Drill-In fluids	Water Based Mud Systems that can withstand high divalent brine environments (Calcium Chloride/Calcium Bromide/Zinc Bromide). This water based muds need to be reservoir friendly fluids.	2300	Chemicals	Current Approved System Name: Di-Pro	
6000016483	East Europe	Non-Conventional LCM	Any time of non-conventional LCM to help curing/managing loss of circulation. These type of system must not be simple particulates, fiber, flakes, etc., rather a system with a different setting mechanism (examples are high fluid loss pills, cross linking polymers, networking polymer, swelling agents, temperature setting systems, shearing setting systems, etc.	2300	Chemicals	Current Approved System Name: EZ-Squeeze Baker Squeeze	
6000016483	East Europe	Overbalance systems	Overbalance fluids are High Performance Oil Based and Water Based Mud used to drill wells with overbalance conditions higher than 2,000 psi with cases reaching closer to the 6,000 psi of differential pressure, including depleted formations. These fluids need to show excellent filtration characteristics, not only on the API HTHP but also on the PPA with spur close to zero and minimum PPA total filtration value.	2300	Chemicals	Current Approved System Name: Hydro-Gurad & Max- Bridge	
6000016483	East Europe	Flat Rheology OBM - FROBS	Flat Rheology and High Performance Oil Based Mud used to drill deep water wells, HT wells and wells classified under the narrow pore pressure and fracture gradient window. Fluid rheology needs to show a flat characteristic (less than 30% difference between rheology measured at 60 degF and 150 degF)	2300	Chemicals	Current Approved System Name: Innovert and Rehlant	
6000016483	East Europe	Reservoir Drilling fluid	Water Based Mud Systems that can be used to drill reservoir formations. However; this not not part of EXPEC ARC priority list	2300	Chemicals	Current Approved System Name: PERFLOW & RDF	
6000016483	East Europe	STEELSEAL-50 50 LB/SACK	This is a synthetic graphite plugging agent used in water and oil based fluids to bridge and seal permeable and fractured formations. Also used for wellbore strengthening by bridging and plugging the rock pores to stop fluid losses and prevent stuck pipe. Resiliency levels vary between 40 – 80 % and a D50 between 20-70 microns. Current approved MN #1001077679	2300	Chemicals	Current Approved System Name: n/a	
6000016483	East Europe	Cutting edge drilling chemical	New technology to address difficult drilling and workover challenges, i.e., new fluid system to protect and enhance reservoir production, new LCM approaches, new systems to avoid cementation, etc. This goes in line with 4IR, artificial intelligence and machine learning.	2300	Chemicals	Current Approved System Name: n/a	
1000022533	East Europe	CALCIUM CHLORIDE(77-78%) 1000 KG BIG BAG	CALCIUM CHLORIDE (77-78%) 1000 KG/BIG BAG ADDITIVE DRILLING FLUID; DRY FLAKES, PELLETS, OR GRANULAR FORM, DRY FLAKES, PELLETS, OR GRANULAR, WATER-SOLUBLE, USED AS WEIGHTING AGENT TO FORMULATE SOLIDS-FREE COMPLETION BRINES AND TO PROVIDE THE DESIRED WATER PHASE SALINITY AND ACTIVITY IN INVERT EMULSION MUDS. IN ADDITION, IT IS USED AS AN ACCELERATOR IN OIL WELL CEMENT SLURRIES. CALCIUM CHLORIDE QUALITY IS MONITORED BY EXPEC ARC LABORATORIES. EXPEC CERTIFICATE OF ACCEPTANCE (EXPEC/COA) REFERRING TO THE RESPECTIVE BATCH NUMBER MUST BE ATTACHED TO EACH SHIPMENT DOCUMENTS ACCEPTED FOR FIELD APPLICATIONS.,FOR USED AS WEIGHTING AGENT TO FORMULATE SOLIDS-FREE COMPLETION BRINES AND TO PROVIDE THE DESIRED WATER PHASE SALINITY AND ACTIVITY IN INVERT EMULSION MUDS. IN ADDITION, IT IS USED AS AN ACCELERATOR IN OIL WELL CEMENT SLURRIES,CALCIUM CHLORIDE 77-78%,1000 KG (2204 LBS) MULTI- WALL MOISTURE-PROOF POLYETHYLENE LINED BAGS WITH LIFTING STRAPS, WITHOUT BOTTOM SPOUT. LIFTING STRAP, BAG IS DISPOSABLE, TOP CLOSURE WATERTIGHT, STACKABLE. MINIMUM TENSILE STRENGTH FACTOR 5, FLEXURAL STRENGTH FOR NORMAL HANDLING AND OUTSIDE STORAGE. THE DISPOSABLE SUPER SACKS SHOULD HAVE AT LEAST 75% OF THEIR SHELF LIFE REMAINING (THE PERIOD FROM DATE OF MANUFACTURING TO THE WARRANTED EXPIRATION DATE) WHEN SHIPPED OR RECEIVED AT DESIGNATED PLACE OF DELIVERY TO SAUDI ARAMCO. REFER TO SAP NUMBER: 1000840600 FOR # DISPOSABLE SUPER SACKS SPECIFICATIONS. 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.,ASTM D98-68/PRACTICE E29 / ASTM D345 - 02(2010) STANDARD TEST METHOD FOR CACL2 SAMPLING AND TESTING,CHEMICAL AND PHYSICAL SPECIFICATIONS APPEARANCE: DRY FREE FLOWING WHITE FLAKES OR PELLETS -PURITY: CACL2 77% WT. MINIMUM PASS THROUGH 7/16 IN SCREEN: 100%WT. NO PARTICLES GREATER THAN 1MM IN ANY DIMENSION. ALKALI CHLORIDES AS NACL: 7% WT. MAXIMUM AND MGCL2: 1% WT. MAXIMUM HEAVY METALS AS PB: 0.005% WT. MAXIMUM. - SULFATE AS CASO4: 0.05% WT. MAXIMUM. FE: 15 PPM MAXIMUM WATER INSOLUBLE: 0.20% WT. MAXIMUM. REMAINING COMPONENT IS WATER OF CRYSTALLIZATION. PH: (10 % DI WATER SOLUTION): 7.5 – 9.5. 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). 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".	2000	Chemicals		
1000022533	West Europe	CALCIUM CHLORIDE(77-78%) 1000 KG BIG BAG	CALCIUM CHLORIDE (77-78%) 1000 KG/BIG BAG	ADDITIVE DRILLING FLUID; DRY FLAKES, PELLETS, OR GRANULAR	FORM,DRY FLAKES, PELLETS, OR GRANULAR, WATER-SOLUBLE, USED AS	WEIGHTING AGENT TO FORMULATE SOLIDS-FREE COMPLETION BRINES AND	TO PROVIDE THE DESIRED WATER PHASE SALINITY AND ACTIVITY IN
1000022538	East Europe	CALCIUM CHLORIDE(94-98%) 1000 KG BIG BAG	CALCIUM CHLORIDE (94-98%) 1000 KG/BIG BAG	ADDITIVE DRILLING FLUID; DRY FLAKES, PELLETS, OR GRANULAR	FORM,DRY FLAKES, PELLETS, OR GRANULAR, WATER-SOLUBLE USED AS	WEIGHTING AGENT FOR FORMULATING SOLIDS-FREE COMPLETION BRINES	AND TO PROVIDE THE DESIRED WATER PHASE SALINITY AND ACTIVITY IN
1000022538	West Europe	CALCIUM CHLORIDE(94-98%) 1000 KG BIG BAG	CALCIUM CHLORIDE (94-98%) 1000 KG/BIG BAG	ADDITIVE DRILLING FLUID; DRY FLAKES, PELLETS, OR GRANULAR	FORM,DRY FLAKES, PELLETS, OR GRANULAR, WATER-SOLUBLE USED AS	WEIGHTING AGENT FOR FORMULATING SOLIDS-FREE COMPLETION BRINES	AND TO PROVIDE THE DESIRED WATER PHASE SALINITY AND ACTIVITY IN
1000178625	East Europe	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
1000178625	West Europe	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

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1000183985	East Europe	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
1000183985	West Europe	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
1000814796	East Europe	ACETIC ACID > 96%	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
6000003963	East Europe	Aluminum Stearate and/or Silicon base defoamer	This is a defoamer used to control foam problems in water based muds. The base ingredient of it is Aluminum Stearate.	2000	Chemicals		
6000003953	East Europe	Anhydrous Calcium Bromide Dry	completion fluids for high density (up to 106 pcf), particularly for Gas operations.	2000	Chemicals		
1000892841	East Europe	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	148500	Chemicals	99.5 % wt purity	1000892841
1000814796	West Europe	ACETIC ACID > 96%	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
1000184546	East Europe	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	148500	Chemicals	99.5% wt purity	1000184546
1000959459	East Europe	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.	148500	Chemicals	more than 99% wt purity	1000959459
1000775823	East Europe	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	148500	Chemicals	catalyst for hydrolysis of COS and CS2 into H2S	1000775823
1000179350	East Europe	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	148500	Chemicals	catalyst for converting H2S and SO2 into sulfur	1000179350
1000179380	East Europe	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	148500	Chemicals	catalyst for converting H2S and SO2 into sulfur	1000179380

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1000823699	East Europe	THINNER/DISPERSANT-OBM CONDITIONER	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
6000016190	East Europe	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.	148500	Chemicals	catalyst for oxidation of H2S into sulfur	
6000016190	East Europe	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.	148500	Chemicals	catalyst for oxidation of H2S into sulfur	
6000001816	East Europe	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.	148500	Chemicals	60-100% wt MDEA, trade secret	
6000001816	East Europe	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.	148500	Chemicals	60-100% wt MDEA, trade secret	
6000001790	East Europe	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.	148500	Chemicals	more than 20% equilibrium capacity, more than 40-50 N crush strength	
1000823699	West Europe	THINNER/DISPERSANT-OBM CONDITIONER	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
6000017151	East Europe	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	148500	Chemicals	operating temperature range	
6000003973	East Europe	Sized metamorphic Marble 2 microns	CHEMICAL; ANY,MATERIALS USED TO PREVENT OR CURE LOSS CIRCULATION OR AS BRIDGING MATERIALS IN WATER BASED MUD, OIL BASED MUD AND BRINE.	2000	Chemicals	Dry metamorphic CaCO3. Ground sedimentary limestone or blends with limestone are not acceptable, Clean white marble, Specific gravity: 2.70-2.85, Median particles size "D50": 1-7 microns, Acid, solubility in 15% HCL @ 150°F: 97%wt. minimum, XRD/XRF data will be generated for the acid insoluble residuals to accurately determine the metamorphic nature of the CaCO3, Moisture: 1%wt. maximum, Iron content: 0.3%wt. maximum	
1000827162	East Europe	LIGNITE - FILTRATION CONTROL AGENT	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
1000827162	West Europe	LIGNITE - FILTRATION CONTROL AGENT	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
6000016483	West Europe	Divalent brines Drill-In fluids	Water Based Mud Systems that can withstand high divalent brine environments (Calcium Chloride/Calcium Bromide/Zinc Bromide). This water based muds need to be reservoir friendly fluids.	2300	Chemicals	Current Approved System Name: Di-Pro	
6000016483	West Europe	Non-Conventional LCM	Any time of non-conventional LCM to help curing/managing loss of circulation. These type of system must not be simple particulates, fiber, flakes, etc., rather a system with a different setting mecanism (examples are high fluid loss pills, cross linking polymers, networking polymer, swelling agents, temperature setting systems, shearing setting systems, etc.	2300	Chemicals	Current Approved System Name: EZ-Squeeze Baker Squeeze	

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6000016483	West Europe	Flat Rheology OBM - FROBS	Flat Rheology and High Performance Oil Based Muds use to drill deep water wells, HT wells and wells classified under the narrow pore pressure and fracture gradient window. Fluid rheology needs to show a flat characteristic (less than 30% difference between rheology measured at 60 degF and 150 degF)	2300	Chemicals	Current Approved System Name: Innovert and Rehliant	
6000016483	West Europe	Reservoir Drilling fluid	Water Based Mud Systems that can be used to drill reservoir formations. However; this not not part of EXPEC ARC priority list	2300	Chemicals	Current Approved System Name: PERFLOW & RDF	
6000016483	West Europe	STEELSEAL-50 50 LB/SACK	This is a synthetic graphite plugging agent used in water and oil based fluids to bridge and seal permeable and fractured formations. Also used for wellbore strengthening by bridging and plugging the rock pores to stop fluid losses and prevent stuck pipe. Resiliency levels vary between 40 – 80 % and a D50 between 20-70 microns. Current approved MN #1001077679	2300	Chemicals	Current Approved System Name: n/a	
6000016483	West Europe	Cutting edge drilling chemical	New technology to address difficult drilling and workover challenges, i.e., new fluid system to protect and enhance reservoir production, new LCM approaches, new systems to avoid cementation, etc. This goes in line with 4IR, artificial intelligence and machine learning.	2300	Chemicals	Current Approved System Name: n/a	
1000885304	East Europe	LUBRICANT FOR OBM ESTER-BASED		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
1000885304	West Europe	LUBRICANT FOR OBM ESTER-BASED		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
1001038020	East Europe	COPOLYMER LATEX	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,
1001038020	West Europe	COPOLYMER LATEX	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,
1001047513	East Europe	COPOLYMER LATEX	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
1001047513	West Europe	COPOLYMER LATEX	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
1001071292	East Europe	ADDITIVE DRILLING FLUID, LIQUID NON-EMUL	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
1001071292	West Europe	ADDITIVE DRILLING FLUID, LIQUID NON-EMUL	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
6000003963	West Europe	Aluminum Stearate and/or Silicon base defoamer	This is a defoamer used to control foam problems in water based muds. The base ingredient of it is Aluminum Stearate.	2000	Chemicals		
6000003953	West Europe	Anhydrous Calcium Bromide Dry	completion fluids for high density (up to 106 pcf), particularly for Gas operations.	2000	Chemicals		
1000892841	West Europe	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	148500	Chemicals	99.5 % wt purity	1000892841
1000184546	West Europe	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	148500	Chemicals	99.5% wt purity	1000184546

Material	Region	Description	Long description	MSG	Commodity	Note	9CAT
1000959459	West Europe	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.	148500	Chemicals	more than 99% wt purity	1000959459
1000775823	West Europe	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	148500	Chemicals	catalyst for hydrolysis of COS and CS2 into H2S	1000775823
1000179350	West Europe	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	148500	Chemicals	catalyst for converting H2S and SO2 into sulfur	1000179350
1000179380	West Europe	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	148500	Chemicals	catalyst for converting H2S and SO2 into sulfur	1000179380
6000016190	West Europe	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.	148500	Chemicals	catalyst for oxidation of H2S into sulfur	
6000016190	West Europe	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.	148500	Chemicals	catalyst for oxidation of H2S into sulfur	
6000001816	West Europe	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.	148500	Chemicals	60-100% wt MDEA, trade secret	
6000001816	West Europe	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.	148500	Chemicals	60-100% wt MDEA, trade secret	
6000001790	West Europe	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.	148500	Chemicals	more than 20% equilibrium capacity, more than 40-50 N crush strength	
6000017151	West Europe	OIL, HEAT TRANSFER FLUID	OIL; HEATING TYPE, HEAT TRANSFER FLUID, (HEATING OIL OR HOT OIL), SYNTHETIC OR MINERAL BASE, FOR HYDROCARBON PROCESSING, LOW TEMPERATURE & HIGH TEMPERATURE HEAT TRANSFER FLUID SYSTEMS, USED AS HEAT TRANSFER SYSTEM	148500	Chemicals	operating temperature range	

Material	Region	Description	Long description	MSG	Commodity	Note	9CAT
6000003973	West Europe	Sized metamorphic Marble 2 microns	CHEMICAL; ANY,MATERIALS USED TO PREVENT OR CURE LOSS CIRCULATION OR AS BRIDGING MATERIALS IN WATER BASED MUD, OIL BASED MUD AND BRINE.	2000	Chemicals	Dry metamorphic CaCO3. Ground sedimentary limestone or blends with limestone are not acceptable, Clean white marble, Specific gravity: 2.70-2.85, Median particles size "D50": 1-7 microns, Acid, solubility in 15% HCl @ 150°F: 97%wt. minimum, XRD/XRF data will be generated for the acid insoluble residuals to accurately determine the metamorphic nature of the CaCO3, Moisture: 1%wt. maximum, Iron content: 0.3%wt. maximum	
6000004047	East Europe	Isolation packer expandable	PACKER PRODUCTION; OPEN HOLE, MECHANICAL TYPE, FOR STANDARD, 5.625 IN (MAX) OD, 3.500 IN (MIN) ID, SIZE: 6-1/8 IN, MATERIAL: VAM, AMBIENT), MAX SET DOWN/PULL UP DURING RIH: L-80, LENGTH: 176.500 IN, 100000 LBS, HOLE SIZE (ID): THREAD UP: 4-1/2 IN OD 12.6 6.00 TO 7.00 IN ROUND HOLE LB/FT NEW VAM BOX THREAD & 6.30 IN X 7.00 IN OVAL DOWN: 4-1/2 IN OD 12.6 HOLE, RELEASE SLEEVE SHEAR LB/FT NEW VAM PIN, BASE MATERIAL : AISI 4140 (18-22 SCREW RTG: 4250 TO 5750 HRC), ELASTOMERS : HNBR CUP LBS, MAX BYPASS FLOW RATE: 5 BBL/MIN (WATER), TORQUE SEAL, HNBR O-RINGS, DESIGN RATING THRU TOOL: 3000 FT VERIFICATION : ISO 14310 LBS. V3, QUALITY CONTROL GRADE : Q3, WEIGHT OF TOOL: 510 LBS (185 KG), DIFFERENTIAL PRESSURE RATING : 2000 PSI , BURST RATING OF TOOL: 3000 PSI, COLLAPSE RATING OF TOOL: 3000 PSI, HYDROSTATIC SETTING PRESSURE RANGE : 2600 TO 6500 PSI, OPERATING TEMPERATURE :20 TO 110 DEG C, RUNNING TEMPERATURE :20 TO 110 DEG C, TENSILE RATING: 193358 LBS (MAIN MANDREL), COMPRESSION RATING: 115000 LBS (40% NEW	5000	Chemicals		1000827791
6000004047	West Europe	Isolation packer expandable	PACKER PRODUCTION; OPEN HOLE, MECHANICAL TYPE, FOR STANDARD, 5.625 IN (MAX) OD, 3.500 IN (MIN) ID, SIZE: 6-1/8 IN, MATERIAL: VAM, AMBIENT), MAX SET DOWN/PULL UP DURING RIH: L-80, LENGTH: 176.500 IN, 100000 LBS, HOLE SIZE (ID): THREAD UP: 4-1/2 IN OD 12.6 6.00 TO 7.00 IN ROUND HOLE LB/FT NEW VAM BOX THREAD & 6.30 IN X 7.00 IN OVAL DOWN: 4-1/2 IN OD 12.6 HOLE, RELEASE SLEEVE SHEAR LB/FT NEW VAM PIN, BASE MATERIAL : AISI 4140 (18-22 SCREW RTG: 4250 TO 5750 HRC), ELASTOMERS : HNBR CUP LBS, MAX BYPASS FLOW RATE: 5 BBL/MIN (WATER), TORQUE SEAL, HNBR O-RINGS, DESIGN RATING THRU TOOL: 3000 FT VERIFICATION : ISO 14310 LBS. V3, QUALITY CONTROL GRADE : Q3, WEIGHT OF TOOL: 510 LBS (185 KG), DIFFERENTIAL PRESSURE RATING : 2000 PSI , BURST RATING OF TOOL: 3000 PSI, COLLAPSE RATING OF TOOL: 3000 PSI, HYDROSTATIC SETTING PRESSURE RANGE : 2600 TO 6500 PSI, OPERATING TEMPERATURE :20 TO 110 DEG C, RUNNING TEMPERATURE :20 TO 110 DEG C, TENSILE RATING: 193358 LBS (MAIN MANDREL), COMPRESSION RATING: 115000 LBS (40% NEW	5000	Chemicals		1000827791
6000004047	West Europe	Isolation packer expandable	PACKER PRODUCTION; OPEN HOLE, MECHANICAL TYPE, FOR STANDARD, 5.625 IN (MAX) OD, 3.500 IN (MIN) ID, SIZE: 6-1/8 IN, MATERIAL: VAM, AMBIENT), MAX SET DOWN/PULL UP DURING RIH: L-80, LENGTH: 176.500 IN, 100000 LBS, HOLE SIZE (ID): THREAD UP: 4-1/2 IN OD 12.6 6.00 TO 7.00 IN ROUND HOLE LB/FT NEW VAM BOX THREAD & 6.30 IN X 7.00 IN OVAL DOWN: 4-1/2 IN OD 12.6 HOLE, RELEASE SLEEVE SHEAR LB/FT NEW VAM PIN, BASE MATERIAL : AISI 4140 (18-22 SCREW RTG: 4250 TO 5750 HRC), ELASTOMERS : HNBR CUP LBS, MAX BYPASS FLOW RATE: 5 BBL/MIN (WATER), TORQUE SEAL, HNBR O-RINGS, DESIGN RATING THRU TOOL: 3000 FT VERIFICATION : ISO 14310 LBS. V3, QUALITY CONTROL GRADE : Q3, WEIGHT OF TOOL: 510 LBS (185 KG), DIFFERENTIAL PRESSURE RATING : 2000 PSI , BURST RATING OF TOOL: 3000 PSI, COLLAPSE RATING OF TOOL: 3000 PSI, HYDROSTATIC SETTING PRESSURE RANGE : 2600 TO 6500 PSI, OPERATING TEMPERATURE :20 TO 110 DEG C, RUNNING TEMPERATURE :20 TO 110 DEG C, TENSILE RATING: 193358 LBS (MAIN MANDREL), COMPRESSION RATING: 115000 LBS (40% NEW	5000	Chemicals		1000827791

Material	Region	Description	Long description	MSG	Commodity	Note	9CAT
6000016171	East Europe	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,
6000016171	West Europe	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,
0	East Europe	Wellhead Equipment MSG 6000, 6100, 6200, 6300	Refer to 9CAT for more details	0	Drilling Equipment	Requirement is for the whole X-mas tree equipment	
6000004055	West Europe	13 3/8" DV TOOL HPHT 5K Multi stage cementing tools (DV) with "Mechanical non inflatable packer"	CEMENTER; SWAGESET V0 PACKOFF STAGE TOOL TYPE,18-5/8 IN OD,115 TO 136 PPF WT,VAM TOP,16.875 IN TOOL OD,13-3/8 IN DRILL OD,OD: 16.875 IN, UPPER SHOE OD: 16.585 IN, PACKER PISTON OD: 16.875 IN, EXTERNAL SLEEVE OD: 16.625 IN, SLIPS CONE OD: 16.875 IN, ELEMENT OD: 16.551 IN, CLOSING SEAT ID: 11.000 IN, OPENING SEAT ID: 10.250 IN, LENGTH: 151.979 IN, FLOW PORT AREA: 5.964 IN2, CASING 1 ID: 17.437 IN, CASING 1 BYPASS AREA: 15.145 IN2, MATERIAL GRADE: R95, MATERIAL YIELD - MINIMUM: 95,000 PSI, ELEMENT MATERIAL: CARBON STEEL/HNBR, O-RING MATERIAL: HNBR, BURST: 7770 PSI, COLLAPSE: 6240 PSI, TENSILE: 1982 KIP, EXTERNAL SLEEVE BURST RATING: 6350 PSI, EXTERNAL SLEEVE COLLAPSE RATING: 6170 PSI, MAX DIFFERENTIAL ABOVE ELEMENT - GAS: 5000 PSI, MAX DIFFERENTIAL BELOW ELEMENT - GAS: 5000 PSI, MAX FORCE ON SLIPS # TENSION: 250 KIPS, MAX FORCE ON SLIPS - COMPRESSION: 150 KIPS, MAX TEMPERATURE RATING: 250 °F, 3MAX PRESSURE ON OPENING SEAT @ 200°F: 4000 PSI, 3MAX PRESSURE ON LUGS / CLOSING SEAT: 3570 PSI, 3MAX BUMP PRESSURE ON CLOSING SEAT: 3200 PSI	5200	Drilling Equipment		1001029827
0	West Europe	Wellhead Equipment MSG 6000, 6100, 6200, 6300	45-SAMSS-005 material standard	0	Drilling Equipment	Requirement is for the whole X-mas tree equipment	
6000004055	East Europe	13 3/8" DV TOOL HPHT 5K Multi stage cementing tools (DV) with "Mechanical non inflatable packer"	CEMENTER; SWAGESET V0 PACKOFF STAGE TOOL TYPE,18-5/8 IN OD,115 TO 136 PPF WT,VAM TOP,16.875 IN TOOL OD,13-3/8 IN DRILL OD,OD: 16.875 IN, UPPER SHOE OD: 16.585 IN, PACKER PISTON OD: 16.875 IN, EXTERNAL SLEEVE OD: 16.625 IN, SLIPS CONE OD: 16.875 IN, ELEMENT OD: 16.551 IN, CLOSING SEAT ID: 11.000 IN, OPENING SEAT ID: 10.250 IN, LENGTH: 151.979 IN, FLOW PORT AREA: 5.964 IN2, CASING 1 ID: 17.437 IN, CASING 1 BYPASS AREA: 15.145 IN2, MATERIAL GRADE: R95, MATERIAL YIELD - MINIMUM: 95,000 PSI, ELEMENT MATERIAL: CARBON STEEL/HNBR, O-RING MATERIAL: HNBR, BURST: 7770 PSI, COLLAPSE: 6240 PSI, TENSILE: 1982 KIP, EXTERNAL SLEEVE BURST RATING: 6350 PSI, EXTERNAL SLEEVE COLLAPSE RATING: 6170 PSI, MAX DIFFERENTIAL ABOVE ELEMENT - GAS: 5000 PSI, MAX DIFFERENTIAL BELOW ELEMENT - GAS: 5000 PSI, MAX FORCE ON SLIPS # TENSION: 250 KIPS, MAX FORCE ON SLIPS - COMPRESSION: 150 KIPS, MAX TEMPERATURE RATING: 250 °F, 3MAX PRESSURE ON OPENING SEAT @ 200°F: 4000 PSI, 3MAX PRESSURE ON LUGS / CLOSING SEAT: 3570 PSI, 3MAX BUMP PRESSURE ON CLOSING SEAT: 3200 PSI	5200	Drilling Equipment		1001029827
6000004065	East Europe	PBR/SEAL,4-1/2",VTHC,15.1#,125KSI,LOWER	SEAL; LOWER PBR -VERSAFLEX EXPANDABLE LINER HANGER TYPE,SIZE 4	1/2 IN 15.1 PPF X 7 INCH,LOWER PBR / SEALS FOR 4 1/2" 15.1##X	7" VERSAFLEX EXPANDABLE LINER HANGER	KIT COMPONENTS	ITM QTY DESCRIPTION REFERENCE
6000004065	West Europe	PBR/SEAL,4-1/2",VTHC,15.1#,125KSI,LOWER	SEAL; LOWER PBR -VERSAFLEX EXPANDABLE LINER HANGER TYPE,SIZE 4	1/2 IN 15.1 PPF X 7 INCH,LOWER PBR / SEALS FOR 4 1/2" 15.1##X	7" VERSAFLEX EXPANDABLE LINER HANGER	KIT COMPONENTS	ITM QTY DESCRIPTION REFERENCE
6000010705	East Europe	VALVE,ICV,3-1/2",NVAM,9.2#,13CR,HCM-A	VALVE; HCM-A TYPE,SIZE 3-1/2 IN,7500 PSI SUPPLY,3-1/2 IN. 9.2 PPF NEW VAM BOX X PIN END CONN,13CR/INC 718/925/825 & TUNGSTEN CARBIDE BODY,MAX OD: 5.850 IN, MIN ID: 2.812 IN, LENGTH: 102 IN, MAX WORKING TEMP.: 40-325OF, CONTROL CHAMBER PRESS. RATING: 10000 PSI, RUPTURE DISC PRESSURE: 9,000 PSI, INCREMENTALPISTON DISPLACEMENT: 19 ML MAX, VALVE IS CAPABLE OF HAVING 8 TO 12 CHOKING POSITIONS INCLUDING THE FULLY OPEN AND FULLY CLOSED POSITION. THE DESIGN ALSO PROVIDES THE ABILITY TO MOVE TO THE FULLY CLOSED POSITION WITH A HYDRAULIC PRESSURE APPLICATION TO THE CLOSE PORT. VALVE SHALL BE CAPABLE TO "PROGRESSIVELY OPEN" WITH RAPID CLOSURE.	5100	Drilling Equipment	Refer to 9CAT for more details	1000782380
6000010705	West Europe	VALVE,ICV,3-1/2",NVAM,9.2#,13CR,HCM-A	VALVE; HCM-A TYPE,SIZE 3-1/2 IN,7500 PSI SUPPLY,3-1/2 IN. 9.2 PPF NEW VAM BOX X PIN END CONN,13CR/INC 718/925/825 & TUNGSTEN CARBIDE BODY,MAX OD: 5.850 IN, MIN ID: 2.812 IN, LENGTH: 102 IN, MAX WORKING TEMP.: 40-325OF, CONTROL CHAMBER PRESS. RATING: 10000 PSI, RUPTURE DISC PRESSURE: 9,000 PSI, INCREMENTALPISTON DISPLACEMENT: 19 ML MAX, VALVE IS CAPABLE OF HAVING 8 TO 12 CHOKING POSITIONS INCLUDING THE FULLY OPEN AND FULLY CLOSED POSITION. THE DESIGN ALSO PROVIDES THE ABILITY TO MOVE TO THE FULLY CLOSED POSITION WITH A HYDRAULIC PRESSURE APPLICATION TO THE CLOSE PORT. VALVE SHALL BE CAPABLE TO "PROGRESSIVELY OPEN" WITH RAPID CLOSURE.	5100	Drilling Equipment	Refer to 9CAT for more details	1000782380

Material	Region	Description	Long description	MSG	Commodity	Note	9CAT
6000010711	East Europe	ICD,4-1/2",NVAM,12.6#,EQUALIZER CFPLUS	QUALIZER; EQUALIZER TECHNOLOGY (CF-PLUS) TYPE,EQUALIZER ECHNOLOGY CONSOLIDATED FORMATION WITH SELECT WITH SLIDING SLEEVE WITH MTV 4.500 IN 12.60 LB/FT NEW VAM BOX UP 4.500 IN 12.60 LB/FT NEW VAM PIN DOWN .100 IN GAGE 13 CR ADJUSTABLE FRR 3.2 FRR FACTORY SETTING .8 FRR 1.6 FRR AND 4.8 FRR. MAX OD: 5.765 IN. MIN ID: 3.510 IN. OVERALL LENGTH: 10.12 FT. BURST RATING: 5000 PSI. COLLAPSE RATING: 3000 PSI. TENSILE RATING: 234,000 LBS. TORSION RATING: 2000 FT.LBS. MAX TEMP: 250 DEG F. MTV ACTUATION: 2500 PSI. BEND LIMIT: 30 DEG/100 FT.	5100	Drilling Equipment	Refer to 9CAT for more details	1000912349
6000010711	West Europe	ICD,4-1/2",NVAM,12.6#,EQUALIZER CFPLUS	QUALIZER; EQUALIZER TECHNOLOGY (CF-PLUS) TYPE,EQUALIZER ECHNOLOGY CONSOLIDATED FORMATION WITH SELECT WITH SLIDING SLEEVE WITH MTV 4.500 IN 12.60 LB/FT NEW VAM BOX UP 4.500 IN 12.60 LB/FT NEW VAM PIN DOWN .100 IN GAGE 13 CR ADJUSTABLE FRR 3.2 FRR FACTORY SETTING .8 FRR 1.6 FRR AND 4.8 FRR. MAX OD: 5.765 IN. MIN ID: 3.510 IN. OVERALL LENGTH: 10.12 FT. BURST RATING: 5000 PSI. COLLAPSE RATING: 3000 PSI. TENSILE RATING: 234,000 LBS. TORSION RATING: 2000 FT.LBS. MAX TEMP: 250 DEG F. MTV ACTUATION: 2500 PSI. BEND LIMIT: 30 DEG/100 FT.	5100	Drilling Equipment	Refer to 9CAT for more details	1000912349
6000010715	East Europe	Tracer Subs system ( 3-1/2" & 4-1/2")	SCREEN; SIZE 4-1/2 IN,S13CR STAND ALONE, SAND CONTROL SCREENS FOR GAS WELLS SHOULD MEET OR EXCEED FOLLOWING SPECIFICATION, BASE PIPE, SIZE AND WEIGHT: 4 1/2 IN, 13.5 PPF, RANGE 3, MIN YIELD STRENGTH: 95,000 PSI, MIN TENSILE STRENGTH: 105,000 PSI, SUPER 13 CHROME, VTHC CASING THREADS (BOX AND PIN CONNECTION), SCREEN /FILTER MEDIA/ WEAVE, NOMINAL 250 MICRON WEAVE, ALLOY 20 OR INCONEL 825, TWO SCREEN SUPPORTING LAYERS (INNER JACKET/ DARINAGE LAYER), ALLOY 20 OR INCONNEL 825, SHROUD: 304 STAINLESS STEEL. LENGTH: 38-40 FT	5100	Drilling Equipment	Refer to 9CAT for more details	1000840500
6000010715	East Europe	Tracer Subs system ( 3-1/2" & 4-1/2")	SCREEN; SIZE 4-1/2 IN,S13CR STAND ALONE, SAND CONTROL SCREENS FOR GAS WELLS SHOULD MEET OR EXCEED FOLLOWING SPECIFICATION, BASE PIPE, SIZE AND WEIGHT: 4 1/2 IN, 13.5 PPF, RANGE 3, MIN YIELD STRENGTH: 95,000 PSI, MIN TENSILE STRENGTH: 105,000 PSI, SUPER 13 CHROME, VTHC CASING THREADS (BOX AND PIN CONNECTION), SCREEN /FILTER MEDIA/ WEAVE, NOMINAL 250 MICRON WEAVE, ALLOY 20 OR INCONEL 825, TWO SCREEN SUPPORTING LAYERS (INNER JACKET/ DARINAGE LAYER), ALLOY 20 OR INCONNEL 825, SHROUD: 304 STAINLESS STEEL. LENGTH: 38-40 FT	5100	Drilling Equipment	Refer to 9CAT for more details	1000840500
6000010715	East Europe	Tracer Subs system ( 3-1/2" & 4-1/2")	SCREEN; SIZE 4-1/2 IN,S13CR STAND ALONE, SAND CONTROL SCREENS FOR GAS WELLS SHOULD MEET OR EXCEED FOLLOWING SPECIFICATION, BASE PIPE, SIZE AND WEIGHT: 4 1/2 IN, 13.5 PPF, RANGE 3, MIN YIELD STRENGTH: 95,000 PSI, MIN TENSILE STRENGTH: 105,000 PSI, SUPER 13 CHROME, VTHC CASING THREADS (BOX AND PIN CONNECTION), SCREEN /FILTER MEDIA/ WEAVE, NOMINAL 250 MICRON WEAVE, ALLOY 20 OR INCONEL 825, TWO SCREEN SUPPORTING LAYERS (INNER JACKET/ DARINAGE LAYER), ALLOY 20 OR INCONNEL 825, SHROUD: 304 STAINLESS STEEL. LENGTH: 38-40 FT	5100	Drilling Equipment	Refer to 9CAT for more details	1000840500
6000010715	East Europe	Tracer Subs system ( 3-1/2" & 4-1/2")	SCREEN; SIZE 4-1/2 IN,S13CR STAND ALONE, SAND CONTROL SCREENS FOR GAS WELLS SHOULD MEET OR EXCEED FOLLOWING SPECIFICATION, BASE PIPE, SIZE AND WEIGHT: 4 1/2 IN, 13.5 PPF, RANGE 3, MIN YIELD STRENGTH: 95,000 PSI, MIN TENSILE STRENGTH: 105,000 PSI, SUPER 13 CHROME, VTHC CASING THREADS (BOX AND PIN CONNECTION), SCREEN /FILTER MEDIA/ WEAVE, NOMINAL 250 MICRON WEAVE, ALLOY 20 OR INCONEL 825, TWO SCREEN SUPPORTING LAYERS (INNER JACKET/ DARINAGE LAYER), ALLOY 20 OR INCONNEL 825, SHROUD: 304 STAINLESS STEEL. LENGTH: 38-40 FT	5100	Drilling Equipment	Refer to 9CAT for more details	1000840500
6000010715	East Europe	Tracer Subs system ( 3-1/2" & 4-1/2")	SCREEN; SIZE 4-1/2 IN,S13CR STAND ALONE, SAND CONTROL SCREENS FOR GAS WELLS SHOULD MEET OR EXCEED FOLLOWING SPECIFICATION, BASE PIPE, SIZE AND WEIGHT: 4 1/2 IN, 13.5 PPF, RANGE 3, MIN YIELD STRENGTH: 95,000 PSI, MIN TENSILE STRENGTH: 105,000 PSI, SUPER 13 CHROME, VTHC CASING THREADS (BOX AND PIN CONNECTION), SCREEN /FILTER MEDIA/ WEAVE, NOMINAL 250 MICRON WEAVE, ALLOY 20 OR INCONEL 825, TWO SCREEN SUPPORTING LAYERS (INNER JACKET/ DARINAGE LAYER), ALLOY 20 OR INCONNEL 825, SHROUD: 304 STAINLESS STEEL. LENGTH: 38-40 FT	5100	Drilling Equipment	Refer to 9CAT for more details	1000840500
6000010715	East Europe	Tracer Subs system ( 3-1/2" & 4-1/2")	SCREEN; SIZE 4-1/2 IN,S13CR STAND ALONE, SAND CONTROL SCREENS FOR GAS WELLS SHOULD MEET OR EXCEED FOLLOWING SPECIFICATION, BASE PIPE, SIZE AND WEIGHT: 4 1/2 IN, 13.5 PPF, RANGE 3, MIN YIELD STRENGTH: 95,000 PSI, MIN TENSILE STRENGTH: 105,000 PSI, SUPER 13 CHROME, VTHC CASING THREADS (BOX AND PIN CONNECTION), SCREEN /FILTER MEDIA/ WEAVE, NOMINAL 250 MICRON WEAVE, ALLOY 20 OR INCONEL 825, TWO SCREEN SUPPORTING LAYERS (INNER JACKET/ DARINAGE LAYER), ALLOY 20 OR INCONNEL 825, SHROUD: 304 STAINLESS STEEL. LENGTH: 38-40 FT	5100	Drilling Equipment	Refer to 9CAT for more details	1000840500
6000010715	East Europe	Tracer Subs system ( 3-1/2" & 4-1/2")	SCREEN; SIZE 4-1/2 IN,S13CR STAND ALONE, SAND CONTROL SCREENS FOR GAS WELLS SHOULD MEET OR EXCEED FOLLOWING SPECIFICATION, BASE PIPE, SIZE AND WEIGHT: 4 1/2 IN, 13.5 PPF, RANGE 3, MIN YIELD STRENGTH: 95,000 PSI, MIN TENSILE STRENGTH: 105,000 PSI, SUPER 13 CHROME, VTHC CASING THREADS (BOX AND PIN CONNECTION), SCREEN /FILTER MEDIA/ WEAVE, NOMINAL 250 MICRON WEAVE, ALLOY 20 OR INCONEL 825, TWO SCREEN SUPPORTING LAYERS (INNER JACKET/ DARINAGE LAYER), ALLOY 20 OR INCONNEL 825, SHROUD: 304 STAINLESS STEEL. LENGTH: 38-40 FT	5100	Drilling Equipment	Refer to 9CAT for more details	1000840500
6000010715	East Europe	Tracer Subs system ( 3-1/2" & 4-1/2")	SCREEN; SIZE 4-1/2 IN,S13CR STAND ALONE, SAND CONTROL SCREENS FOR GAS WELLS SHOULD MEET OR EXCEED FOLLOWING SPECIFICATION, BASE PIPE, SIZE AND WEIGHT: 4 1/2 IN, 13.5 PPF, RANGE 3, MIN YIELD STRENGTH: 95,000 PSI, MIN TENSILE STRENGTH: 105,000 PSI, SUPER 13 CHROME, VTHC CASING THREADS (BOX AND PIN CONNECTION), SCREEN /FILTER MEDIA/ WEAVE, NOMINAL 250 MICRON WEAVE, ALLOY 20 OR INCONEL 825, TWO SCREEN SUPPORTING LAYERS (INNER JACKET/ DARINAGE LAYER), ALLOY 20 OR INCONNEL 825, SHROUD: 304 STAINLESS STEEL. LENGTH: 38-40 FT	5100	Drilling Equipment	Refer to 9CAT for more details	1000840500
6000010715	West Europe	Tracer Subs system ( 3-1/2" & 4-1/2")	SCREEN; SIZE 4-1/2 IN,S13CR STAND ALONE, SAND CONTROL SCREENS FOR GAS WELLS SHOULD MEET OR EXCEED FOLLOWING SPECIFICATION, BASE PIPE, SIZE AND WEIGHT: 4 1/2 IN, 13.5 PPF, RANGE 3, MIN YIELD STRENGTH: 95,000 PSI, MIN TENSILE STRENGTH: 105,000 PSI, SUPER 13 CHROME, VTHC CASING THREADS (BOX AND PIN CONNECTION), SCREEN /FILTER MEDIA/ WEAVE, NOMINAL 250 MICRON WEAVE, ALLOY 20 OR INCONEL 825, TWO SCREEN SUPPORTING LAYERS (INNER JACKET/ DARINAGE LAYER), ALLOY 20 OR INCONNEL 825, SHROUD: 304 STAINLESS STEEL. LENGTH: 38-40 FT	5100	Drilling Equipment	Refer to 9CAT for more details	1000840500
6000010715	West Europe	Tracer Subs system ( 3-1/2" & 4-1/2")	SCREEN; SIZE 4-1/2 IN,S13CR STAND ALONE, SAND CONTROL SCREENS FOR GAS WELLS SHOULD MEET OR EXCEED FOLLOWING SPECIFICATION, BASE PIPE, SIZE AND WEIGHT: 4 1/2 IN, 13.5 PPF, RANGE 3, MIN YIELD STRENGTH: 95,000 PSI, MIN TENSILE STRENGTH: 105,000 PSI, SUPER 13 CHROME, VTHC CASING THREADS (BOX AND PIN CONNECTION), SCREEN /FILTER MEDIA/ WEAVE, NOMINAL 250 MICRON WEAVE, ALLOY 20 OR INCONEL 825, TWO SCREEN SUPPORTING LAYERS (INNER JACKET/ DARINAGE LAYER), ALLOY 20 OR INCONNEL 825, SHROUD: 304 STAINLESS STEEL. LENGTH: 38-40 FT	5100	Drilling Equipment	Refer to 9CAT for more details	1000840500



Material	Region	Description	Long description	MSG	Commodity	Note	9CAT
6000010715	West Europe	Tracer Subs system ( 3-1/2" & 4-1/2")	SCREEN; SIZE 4-1/2 IN,S13CR STAND ALONE, SAND CONTROL SCREENS FOR GAS WELLS SHOULD MEET OR EXCEED FOLLOWING SPECIFICATION, BASE PIPE, SIZE AND WEIGHT: 4 1/2 IN, 13.5 PPF, RANGE 3, MIN YIELD STRENGTH: 95,000 PSI, MIN TENSILE STRENGTH: 105,000 PSI, SUPER 13 CHROME, VTHC CASING THREADS (BOX AND PIN CONNECTION), SCREEN /FILTER MEDIA/ WEAVE, NOMINAL 250 MICRON WEAVE, ALLOY 20 OR INCONEL 825, TWO SCREEN SUPPORTING LAYERS (INNER JACKET/ DARINAGE LAYER), ALLOY 20 OR INCONEL 825, SHROUD: 304 STAINLESS STEEL. LENGTH: 38-40 FT	5100	Drilling Equipment	Refer to 9CAT for more details	1000840500
6000010715	West Europe	Tracer Subs system ( 3-1/2" & 4-1/2")	SCREEN; SIZE 4-1/2 IN,S13CR STAND ALONE, SAND CONTROL SCREENS FOR GAS WELLS SHOULD MEET OR EXCEED FOLLOWING SPECIFICATION, BASE PIPE, SIZE AND WEIGHT: 4 1/2 IN, 13.5 PPF, RANGE 3, MIN YIELD STRENGTH: 95,000 PSI, MIN TENSILE STRENGTH: 105,000 PSI, SUPER 13 CHROME, VTHC CASING THREADS (BOX AND PIN CONNECTION), SCREEN /FILTER MEDIA/ WEAVE, NOMINAL 250 MICRON WEAVE, ALLOY 20 OR INCONEL 825, TWO SCREEN SUPPORTING LAYERS (INNER JACKET/ DARINAGE LAYER), ALLOY 20 OR INCONEL 825, SHROUD: 304 STAINLESS STEEL. LENGTH: 38-40 FT	5100	Drilling Equipment	Refer to 9CAT for more details	1000840500
6000010715	West Europe	Tracer Subs system ( 3-1/2" & 4-1/2")	SCREEN; SIZE 4-1/2 IN,S13CR STAND ALONE, SAND CONTROL SCREENS FOR GAS WELLS SHOULD MEET OR EXCEED FOLLOWING SPECIFICATION, BASE PIPE, SIZE AND WEIGHT: 4 1/2 IN, 13.5 PPF, RANGE 3, MIN YIELD STRENGTH: 95,000 PSI, MIN TENSILE STRENGTH: 105,000 PSI, SUPER 13 CHROME, VTHC CASING THREADS (BOX AND PIN CONNECTION), SCREEN /FILTER MEDIA/ WEAVE, NOMINAL 250 MICRON WEAVE, ALLOY 20 OR INCONEL 825, TWO SCREEN SUPPORTING LAYERS (INNER JACKET/ DARINAGE LAYER), ALLOY 20 OR INCONEL 825, SHROUD: 304 STAINLESS STEEL. LENGTH: 38-40 FT	5100	Drilling Equipment	Refer to 9CAT for more details	1000840500
6000010715	West Europe	Tracer Subs system ( 3-1/2" & 4-1/2")	SCREEN; SIZE 4-1/2 IN,S13CR STAND ALONE, SAND CONTROL SCREENS FOR GAS WELLS SHOULD MEET OR EXCEED FOLLOWING SPECIFICATION, BASE PIPE, SIZE AND WEIGHT: 4 1/2 IN, 13.5 PPF, RANGE 3, MIN YIELD STRENGTH: 95,000 PSI, MIN TENSILE STRENGTH: 105,000 PSI, SUPER 13 CHROME, VTHC CASING THREADS (BOX AND PIN CONNECTION), SCREEN /FILTER MEDIA/ WEAVE, NOMINAL 250 MICRON WEAVE, ALLOY 20 OR INCONEL 825, TWO SCREEN SUPPORTING LAYERS (INNER JACKET/ DARINAGE LAYER), ALLOY 20 OR INCONEL 825, SHROUD: 304 STAINLESS STEEL. LENGTH: 38-40 FT	5100	Drilling Equipment	Refer to 9CAT for more details	1000840500
6000010715	West Europe	Tracer Subs system ( 3-1/2" & 4-1/2")	SCREEN; SIZE 4-1/2 IN,S13CR STAND ALONE, SAND CONTROL SCREENS FOR GAS WELLS SHOULD MEET OR EXCEED FOLLOWING SPECIFICATION, BASE PIPE, SIZE AND WEIGHT: 4 1/2 IN, 13.5 PPF, RANGE 3, MIN YIELD STRENGTH: 95,000 PSI, MIN TENSILE STRENGTH: 105,000 PSI, SUPER 13 CHROME, VTHC CASING THREADS (BOX AND PIN CONNECTION), SCREEN /FILTER MEDIA/ WEAVE, NOMINAL 250 MICRON WEAVE, ALLOY 20 OR INCONEL 825, TWO SCREEN SUPPORTING LAYERS (INNER JACKET/ DARINAGE LAYER), ALLOY 20 OR INCONEL 825, SHROUD: 304 STAINLESS STEEL. LENGTH: 38-40 FT	5100	Drilling Equipment	Refer to 9CAT for more details	1000840500
6000015783	East Europe	KIT,7",VALVE+GRV PACKER+SEAL+MFIV	VALVE; MECHANICAL FORMATION ISOLATION TYPE,SIZE 7 IN,5000 PSI (DIFFERENTIAL PRESSURE) SUPPLY,4140 L-80 BODY,4140 L-80 TRIM,2.940" ID X 5.500" OD (3 FT) EXTENSION, 5,000 PSI BALL DIFFERENTIAL PRESSURE RATING, 300 DEG. F TEMPERATURE RATING, 4-1/2" 13.5 PPF NEW VAM BOX X PIN, AND 106" OVERALL LENGTH, 1. COMPLETE ASSEMBLY WITH ITEMS AS DESCRIBED IN KITS SECTION MUST BE BOXED AS AN INDIVIDUAL UNIT FOR SHIPMENT AND STORAGE PER SAUDI ARAMCO PACKAGING SPEC 844418. 2. MANUFACTURER MUST BAR CODE IDENTIFY EACH ISSUE UNIT ON BOTH THE MATERIAL AND OUTSIDE THE CONTAINER IN WHICH THE ISSUE UNIT IS CONTAINED. CODE TO BE IN THE INTERNATIONAL CODE 39 BAR CODING SYSTEM FORMAT AND ADHERE TO ANSI MH10.8 ( LATEST EDITION) SPECIFICATION (LESS SECTIONS 12 & 13). BAR CODE TAG MUST INCLUDE THE SAUDI ARAMCO STOCK NUMBER AND PURCHASE ORDER NUMBER. ALL ITEMS SHOULD BE ASSEMBLED TOGETHER PRIOR TO TESTING. KITS COMPONENTS KITS COMPONENTS ITM QTY DESCRIPTION 01 01 LOCATOR: 7IN X 4IN; NO GO ; ID: 3.00IN OD: 4.20IN LENGTH: 6 IN (0.5 FT) MATERIAL: 4140 L80 MATERIAL TOP CONNECTION: 3-1/2IN 9.3 PPF EUE BOX BOTTCM CONNECTION: 3.3625-8 SA PIN MANUFACTURER REFERENCE: 44104-000-0000A 02 01 SEAL ASSEMBLY LENGTH: 30 FT LONG SEAL MATERIAL: VTR CHEVRON SEAL STACK TOP CONNECTION: 3-1/2 IN 9.3 PPF EUE BOX UP BOTTOM CONNECTION: 2-3/8 IN 4.6 PPF HYDRIL 511 PIN DOWN ID: 3.00IN OD: 3.992IN MATERIAL: 4140 L80 SEAL UNIT CONNECTION 3.3625-8 STUB ACME BOX X PIN MANUFACTURER REFERENCE: 44302-000-0000A 03 01 PUP JOINT: PERFORATED; 10 FT LONG; L80 MATERIAL; CONNECTION: 2-3/8 IN 4.6 PPF HYDRIL 511 BOX PIN THREAD; ID : 1.937 IN OD: 2.375 IN LENGTH: 120 IN (10 FT) MANUFACTURER REFERENCE: KFO080312-1-25-A 04 01 TOOL: MFIV SHIFTING; CCOMPLETION TYPE; 2.94 IN X 1.50 IN (2.74 IN MIN OD);2-3/8 IN 4.6 PPF, HYDRIL 511 BOX UP X 1/2 MULE SHOE;1.1 IN ID X 2.94IN OD; 42 IN (3.5 FT) LONG. MANUFACTURER REFERENCE: 10072604A 05 01 PACKER: QUANTUM GRAVEL-PACKED ID: 4.00 IN OD: 6.110IN NITRILE ELASTOMERS MATERIAL: 4140 L80 MATERIAL TOP CONNECTION: 4.500IN, LEFT HAND SQUARE, BOX BOTTOM CONNECTION: 4.937IN,STUB ACME, PIN MANUFACTURER REFERENCE: 44016-000-00009 06 01 SEAL BORE EXTENSION ID: 4.00IN OD: 5.530IN MATERIAL : 4140 L80 MATERIAL LENGTH: 240 IN (20 FT) TOP CONNECTION: 4.937-6 ACME PIN BOTTOM CONNECTION: 4.937-6 ACME, PIN MANUFACTURER REFERENCE : SBE4937-6SA-10 SII 07 01 CROSSOVER ID: 4.00IN OD: 5.500IN MATERIAL:4140 L80 MATERIAL LENGTH: 7.2 IN (0.6 FT) TOP CONNECTION: 4.937-6 STUB ACME BOX BOTTOM CONNECTION: 4-1/2 IN, 12.6 PPF, NEW VAM , PIN MANUFACTURER REFERENCE : SBE4937-6SA-10 SII 08 01 Extension mill out ID: 4.00IN OD: 5.530IN MATERIAL: 4140 L80 MATERIAL LENGTH: 72 IN (6 FT) TOP CONNECTION : 4.937 STUB ACME BOX BOTTOM CONNECTION: 4.937 STUB ACME BOX MANUFACTURER REFERENCE : 44000-00-0001569	5000	Drilling Equipment	Refer to 9CAT for more details	1000809797

Material	Region	Description	Long description	MSG	Commodity	Note	9CAT
6000015783	West Europe	KIT,7",VALVE+GRV PACKER+SEAL+MFIV	VALVE; MECHANICAL FORMATION ISOLATION TYPE,SIZE 7 IN,5000 PSI (DIFFERENTIAL PRESSURE) SUPPLY,4140 L-80 BODY,4140 L-80 TRIM,2.940" ID X 5.500" OD (3 FT) EXTENSION, 5,000 PSI BALL DIFFERENTIAL PRESSURE RATING, 300 DEG. F TEMPERATURE RATING, 4-1/2" 13.5 PPF NEW VAM BOX X PIN, AND 106" OVERALL LENGTH, 1. COMPLETE ASSEMBLY WITH ITEMS AS DESCRIBED IN KITS SECTION MUST BE BOXED AS AN INDIVIDUAL UNIT FOR SHIPMENT AND STORAGE PER SAUDI ARAMCO PACKAGING SPEC 844418. 2. MANUFACTURER MUST BAR CODE IDENTIFY EACH ISSUE UNIT ON BOTH THE MATERIAL AND OUTSIDE THE CONTAINER IN WHICH THE ISSUE UNIT IS CONTAINED. CODE TO BE IN THE INTERNATIONAL CODE 39 BAR CODING SYSTEM FORMAT AND ADHERE TO ANSI MH10.8 ( LATEST EDITION) SPECIFICATION (LESS SECTIONS 12 & 13). BAR CODE TAG MUST INCLUDE THE SAUDI ARAMCO STOCK NUMBER AND PURCHASE ORDER NUMBER. ALL ITEMS SHOULD BE ASSEMBLED TOGETHER PRIOR TO TESTING. KITS COMPONENTS KITS COMPONENTS ITM QTY DESCRIPTION 01 01 LOCATOR: 7IN X 4IN; NO GO ; ID: 3.00IN OD: 4.20IN LENGTH: 6 IN (0.5 FT) MATERIAL: 4140 L80 MATERIAL TOP CONNECTION: 3-1/2IN 9.3 PPF EUE BOX BOTTCM CONNECTION: 3.3625-8 SA PIN MANUFACTURER REFERENCE: 44104-000-0000A 02 01 SEAL ASSEMBLY LENGTH: 30 FT LONG SEAL MATERIAL: VTR CHEVRON SEAL STACK TOP CONNECTION: 3-1/2 IN 9.3 PPF EUE BOX UP BOTOM CONNECTION: 2-3/8 IN 4.6 PPF HYDRIL 511 PIN DOWN ID: 3.00IN OD: 3.992IN MATERIAL: 4140 L80 SEAL UNIT CONNECTION 3.3625-8 STUB ACME BOX X PIN MANUFACTURER REFERENCE: 44302-000-0000A 03 01 PUP JOINT: PERFORATED; 10 FT LONG; L80 MATERIAL; CONNECTION: 2-3/8 IN 4.6 PPF HYDRIL 511 BOXX PIN THREAD; ID : 1.937 IN OD: 2.375 IN LENGTH: 120 IN (10 FT) MANUFACTURER REFERENCE: KFO080312-1-25-A 04 01 TOOL: MFIV SHIFTING; CCMPLETION TYPE; 2.94 IN X 1.50 IN (2.74 IN MIN OD);2-3/8 IN 4.6 PPF, HYDRIL 511 BOX UP X 1/2 MULE SHOE;1.1 IN ID X 2.94IN OD; 42 IN (3.5 FT) LONG. MANUFACTURER REFERENCE: 10072604A 05 01 PACKER: QUANTUM GRAVEL-PACKED ID: 4.00 IN OD: 6.110IN NITRILE ELASTOMERS MATERIAL: 4140 L80 MATERIAL TOP CONNECTION: 4.500IN, LEFT HAND SQUARE, BOX BOTTOM CONNECTION: 4.937IN,STUB ACME, PIN MANUFACTURER REFERENCE: 44016-000-00009 06 01 SEAL BORE EXTENSION ID: 4.00IN OD: 5.530IN MATERIAL : 4140 L80 MATERIAL LENGTH: 240 IN (20 FT) TOP CONNECTION: 4.937-6 ACME PIN BOTTOM CONNECTION: 4.937-6 ACME, PIN MANUFACTURER REFERENCE : SBE4937- 6SA-10 SII 07 01 CROSSOVER ID: 4.00IN OD: 5.500IN MATERIAL:4140 L80 MATERIAL LENGTH: 7.2 IN (0.6 FT) TOP CONNECTION: 4.937-6 STUB ACME BOX BOTTOM CONNECTION: 4-1/2 IN, 12.6 PPF, NEW VAM , PIN MANUFACTURER REFERENCE : SBE4937-6SA-10 SII 08 01 Extension mill out ID: 4.00IN OD: 5.530IN MATERIAL: 4140 L80 MATERIAL LENGTH: 72 IN (6 FT) TOP CONNECTION : 4.937 STUB ACME BOX BOTTOM CONNECTION: 4.937 STUB ACME BOX MANUFACTURER REFERENCE : 44000-00-0001569	5000	Drilling Equipment	Refer to 9CAT for more details	1000809797
6000000763	East Europe	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	37000	Electrical	
6000000763	West Europe	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	37000	Electrical	
6000000765	East Europe	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	36000	Electrical	
6000000765	West Europe	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	36000	Electrical	
6000000774	West Europe	TRAY; CABLE, FIBERGLASS	TRAY; CABLE TYPE,FIBERGLASS,NEMA FG-1,S-P-104 SEC. 9	49000	Electrical		
6000000803	East Europe	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	42000	Electrical
6000000803	West Europe	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	42000	Electrical
6000000897	East Europe	PANELBOARD,LOW VOLTAGE, EXPLOSIONPROOF	PANELBOARD ELECTRICAL; ANY BREAKER,LOW VOLTAGE, EXPLOSIONPROOF	TYPE,ANY,16-SAMSS-518	62000	Electrical	
6000000897	West Europe	PANELBOARD,LOW VOLTAGE, EXPLOSIONPROOF	PANELBOARD ELECTRICAL; ANY BREAKER,LOW VOLTAGE, EXPLOSIONPROOF	TYPE,ANY,16-SAMSS-518	62000	Electrical	
6000000903	West Europe	SWITCH; DISCONNECT; HIGH VOLTAGE;	SWITCH DISCONNECT; HIGH VOLTAGE,ANY ACTION,ELECTRICAL	TYPE,30-TMSS-01	45500	Electrical	
6000000929	East Europe	CABLEBUS 16-SAMSS-520	BUS; SIZE ANY,CABLE,16-SAMSS-520	42000	Electrical		
6000000929	West Europe	CABLEBUS 16-SAMSS-520	BUS; SIZE ANY,CABLE,16-SAMSS-520	42000	Electrical		
6000000957	East Europe	CABLE;ELECTRICAL, CP, OFFSHORE ANODE	CABLE ELECTRICAL; ANY SUPPLY,ANY CONDUCTO,ORED HODIC PROTECTION	OFFSHORE TYPE,POWER TYPE,17-SAMSS-017,ARMORED	54000	Electrical	
6000003728	East Europe	PANEL; HYDRAULIC; SSV & SSSV	PANEL; HYDRAULIC, SSV & SSSV TYPE,HYDRAULIC,SSV SSSV,AC	APPLICATIONS 34-SAMSS-624,34-SAMSS-630	1300	Electrical	
6000003728	West Europe	PANEL; HYDRAULIC; SSV & SSSV	PANEL; HYDRAULIC, SSV & SSSV TYPE,HYDRAULIC,SSV SSSV,AC	APPLICATIONS 34-SAMSS-624,34-SAMSS-630	1300	Electrical	

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6000007258	East Europe	RACK; SWITCHRACK;OUTDOOR;LOW VOLTAGE	RACK; SWITCHRACK,OUTDOOR,LOW VOLTAGE TYPE,16-SAMSS-512	58000	Electrical		
6000007258	West Europe	RACK; SWITCHRACK;OUTDOOR;LOW VOLTAGE	RACK; SWITCHRACK,OUTDOOR,LOW VOLTAGE TYPE,16-SAMSS-512	58000	Electrical		
6000011391	East Europe	RECTIFIER; IMPRESSED CURRENT; 17-SAMSS-0	RECTIFIER; TYPE CONSTANT VOLTAGE,TAP TYPE,17-SAMSS-004,FOR	CATHODIC PROTECTION	61000	Electrical	
6000011391	West Europe	RECTIFIER; IMPRESSED CURRENT; 17-SAMSS-0	RECTIFIER; TYPE CONSTANT VOLTAGE,TAP TYPE,17-SAMSS-004,FOR	CATHODIC PROTECTION	61000	Electrical	
6000012042	East Europe	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	61000	Electrical
6000012042	West Europe	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	61000	Electrical
6000012080	East Europe	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
6000012080	West Europe	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
6000012790	East Europe	ANODE: GALVANIC, MAGNESIUM,CP	ANODE GALVANIC; MAGNESIUM,17-SAMSS-006,CATHODIC PROTECTION LARGE	SIZE CYLINDRICAL, FOR OFFSHORE APPLICATION	54200	Electrical	
6000012790	West Europe	ANODE: GALVANIC, MAGNESIUM,CP	ANODE GALVANIC; MAGNESIUM,17-SAMSS-006,CATHODIC PROTECTION LARGE	SIZE CYLINDRICAL, FOR OFFSHORE APPLICATION	54200	Electrical	
6000015510	East Europe	ANODE;GALVANIC,HIGH TEMPERATURE ZINC,CP	ANODE GALVANIC; HIGH TEMPERATURE ZINC,17-SAMSS-006,CATHODIC	PROTECTION	54200	Electrical	
6000016594	West Europe	CAPACITOR BANK	UNIT; SHUNT CAPACITOR TYPE,43-TMSS-01,SAES-P-116,POWER FACTOR	CORRECTION CAPACITOR BANK 4.16KV THROUGH 380KV	36000	Electrical	
6000016800	East Europe	ANODE; GALVANIC; ALUMINUM, WITHOUT LEAD		ANODE GALVANIC; ALUMINUM, WITHOUT LEAD,17-SAMSS-006,CATHODIC	PROTECTION	54200	Electrical
6000016800	West Europe	ANODE; GALVANIC; ALUMINUM, WITHOUT LEAD		ANODE GALVANIC; ALUMINUM, WITHOUT LEAD,17-SAMSS-006,CATHODIC	PROTECTION	54200	Electrical
6000016801	East Europe	ANODE; GALVANIC; ZINC, WITHOUT LEAD; CP	ANODE GALVANIC; ZINC, WITHOUT LEAD,17-SAMSS-006,CATHODIC	PROTECTION	54200	Electrical	
6000016801	East Europe	ANODE; GALVANIC; ZINC, WITHOUT LEAD; CP	ANODE GALVANIC; ZINC, WITHOUT LEAD,17-SAMSS-006,CATHODIC	PROTECTION	54200	Electrical	
6000016801	West Europe	ANODE; GALVANIC; ZINC, WITHOUT LEAD; CP	ANODE GALVANIC; ZINC, WITHOUT LEAD,17-SAMSS-006,CATHODIC	PROTECTION	54200	Electrical	
6000016991	East Europe	UNIT; MOBILE SUBSTATION; 69KV AND BELOW	UNIT; MOBILE SUBSTATION TYPE,OPERATING AT 69KV AND BELOW	36000	Electrical		
6000016991	West Europe	UNIT; MOBILE SUBSTATION; 69KV AND BELOW	UNIT; MOBILE SUBSTATION TYPE,OPERATING AT 69KV AND BELOW	36000	Electrical		
6000001216	East Europe	CABLE; COMMUNICATIONS; FIBER OPTIC	CABLE COMMUNICATIONS; ANY CONDUCTO,FIBER OPTIC TYPE,18-SAMSS-625	76000	Instrumentation and IT		
6000001216	West Europe	CABLE; COMMUNICATIONS; FIBER OPTIC	CABLE COMMUNICATIONS; ANY CONDUCTO,FIBER OPTIC TYPE,18-SAMSS-625	76000	Instrumentation and IT		
6000002689	East Europe	CALIBRATION GAS CYLINDER FOR GAS MONITOR	CYLINDER; CALIBRATION GAS TYPE,SIZE ANY,ANY,FOR COMBUSTIBLE &	TOXIC GAS MONITORS ONLY	82000	Instrumentation and IT	
6000002689	West Europe	CALIBRATION GAS CYLINDER FOR GAS MONITOR	CYLINDER; CALIBRATION GAS TYPE,SIZE ANY,ANY,FOR COMBUSTIBLE &	TOXIC GAS MONITORS ONLY	82000	Instrumentation and IT	
6000002720	East Europe	ANALYZER; DENSITY METER; GAS AND LIQUID	ANALYZER; DENSITY METER TYPE,ANY RANGE,34-SAMSS-510,GAS AND	LIQUID SERVICE	82000	Instrumentation and IT	
6000002720	West Europe	ANALYZER; DENSITY METER; GAS AND LIQUID	ANALYZER; DENSITY METER TYPE,ANY RANGE,34-SAMSS-510,GAS AND	LIQUID SERVICE	82000	Instrumentation and IT	
6000002725	West Europe	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.	1300
6000002764	East Europe	INSTRUMENT; LEVEL; RADIATION TYPE	INSTRUMENT; LEVEL TYPE,LEVEL,RADIATION TYPE	92000	Instrumentation and IT		
6000002764	West Europe	INSTRUMENT; LEVEL; RADIATION TYPE	INSTRUMENT; LEVEL TYPE,LEVEL,RADIATION TYPE	92000	Instrumentation and IT		
6000002782	East Europe	MONITOR; GAS; COMBUSTIBLE	MONITOR GAS; COMBUSTIBLE,ANY RANGE,34-SAMSS-514	82000	Instrumentation and IT		
6000002782	West Europe	MONITOR; GAS; COMBUSTIBLE	MONITOR GAS; COMBUSTIBLE,ANY RANGE,34-SAMSS-514	82000	Instrumentation and IT		
6000002856	East Europe	VALVE; AUTOMATIC RECIRCULATION;	VALVE; AUTOMATIC RECIRCULATION TYPE,SIZE ANY,34-SAMSS-711	32000	Instrumentation and IT		
6000002886	East Europe	GAUGE; LEVEL; GLASS	GAUGE LEVEL; GLASS TYPE,34-SAMSS-010,WITH BACKFLOW PREVENTER	VALVE OR CHECK VALVE AS ASSEMBLY IF REQUIRED.	85000	Instrumentation and IT	

Material	Region	Description	Long description	MSG	Commodity	Note	9CAT
6000002886	West Europe	GAUGE; LEVEL; GLASS	GAUGE LEVEL; GLASS TYPE,34-SAMSS-010,WITH BACKFLOW PREVENTER	VALVE OR CHECK VALVE AS ASSEMBLY IF REQUIRED.	85000	Instrumentation and IT	
6000002914	West Europe	ANALYZER; GAS CHROMATOGRAPH; Sheltered	ANALYZER; GAS CHROMATOGRAPH TYPE,ANY RANGE,34-SAMSS-510,PROCESS	GAS OR LIQUID	82000	Instrumentation and IT	
6000008342	East Europe	UNIT: REMOTE TERMINAL TYPE	UNIT; REMOTE TERMINAL TYPE,REMOTE TERMINAL,23-SAMSS-030	214000	Instrumentation and IT		
6000008342	West Europe	UNIT: REMOTE TERMINAL TYPE	UNIT; REMOTE TERMINAL TYPE,REMOTE TERMINAL,23-SAMSS-030	214000	Instrumentation and IT		
6000009890	West Europe	CUSTODY PROVER, SMALL VOLUME, UNI PISTON	METER; UND PISTON(SMALL VOLUM) PROVER TYPE,34-SAMSS-119,FOR	LIQUID CUSTODY TRANSFER	64000	Instrumentation and IT	
6000009898	West Europe	CUSTODY CHROMATOGRAPH, GAS OR LIQUID	CHROMATOGRAPH PROCESS; FOR CUSTODY TRANSFER CHROMOTOGRAPHY,ANY	DETECTOR,ANY CARRIER,34-SAMSS-510	64000	Instrumentation and IT	
6000009899	East Europe	CUSTODY FLOW COMPUTER, LIQUID, PANEL-MNT	COMPUTER FLOW; PANEL MOUNTED TYPE,34-SAMSS-841,FOR LIQUID	CUSTODY TRANSFER	64000	Instrumentation and IT	
6000009906	East Europe	CUSTODY PRESET CONTROLLER, TRUCK LOADING	COMPUTER FLOW; CUSTODY PRESET CONTROLLER TYPE,34-SAMSS-847,FOR	TRUCK LOADING AND UNLOADING SYSTEMS	64000	Instrumentation and IT	
6000009906	West Europe	CUSTODY PRESET CONTROLLER, TRUCK LOADING	COMPUTER FLOW; CUSTODY PRESET CONTROLLER TYPE,34-SAMSS-847,FOR	TRUCK LOADING AND UNLOADING SYSTEMS	64000	Instrumentation and IT	
6000010781	West Europe	FOUNDATION FIELDBUS (FF) BLOCKS	BLOCK; FOUNDATION FIELDBUS(FF) WIRING TYPE,INCLUDING POWER	SUPPLIES, FOR USE WITH FOUNDATION FIELD-BUS INSTRUMENTS ONLY	94000	Instrumentation and IT	
6000010782	East Europe	CONTROLLER; SMART VALVE POSITION TYPE	CONTROLLER; SMART VALVE POSITION TYPE,ANY RANGE,34-SAMSS-634,FOR	USE WITH EMERGENCY SHUTDOWN VALVES.	90000	Instrumentation and IT	
6000010821	East Europe	ACTUATOR: VALVE; ELECTRIC FAILSAFE	ACTUATOR VALVE ELECTRIC; SIZE ANY,ANY	ACTION,34-SAMSS-716,ELECTRIC ACTUATOR FOR OPERATING VALVE,	FAILSAFE DESIGN	29000	Instrumentation and IT
6000012803	East Europe	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.	27000
6000012803	West Europe	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.	27000
6000014631	West Europe	CABLE: SUBMARINE FIBER OPTIC	CABLE; SUBMARINE FIBER OPTIC CABLE TYPE,STAND-ALONE SUBMARINE	FIBER OPTICAL CABLE,18-SAMSS-006	76000	Instrumentation and IT	
6000001310	West Europe	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.
6000002419	East Europe	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	211000
6000002419	West Europe	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	211000
6000002696	East Europe	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
6000012705	East Europe	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.	225000
6000014422	East Europe	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	110000	Others
6000000761	East Europe	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	36000	Others
6000000761	East Europe	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	36000	Others
6000000761	West Europe	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	36000	Others
6000000943	East Europe	ANODE;BACKFILL CARBON MATERIAL,ICCP,CP	ANODE; S CINED CARBON BACKFILL HODIC PROTECTION TYPE,FOR	IMPRESSED CURRENT	54200	Others	
6000000943	West Europe	ANODE;BACKFILL CARBON MATERIAL,ICCP,CP	ANODE; S CINED CARBON BACKFILL HODIC PROTECTION TYPE,FOR	IMPRESSED CURRENT	54200	Others	
6000001014	East Europe	CP,POWER SUPPLY;RECTIFIER;IMPRESSED CURR	RECTIFIER IMPRESSED CURRENT; HODIC PROTECTION SE CONTROL	TYPE,ANY OUTPUT,17-SAMSS-005	54000	Others	

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6000001014	West Europe	CP,POWER SUPPLY;RECTIFIER;IMPRESSED CURR	RECTIFIER IMPRESSED CURRENT; HODIC PROTECTION SE CONTROL	TYPE,ANY OUTPUT,17-SAMSS-005	54000	Others	
6000001014	West Europe	CP,POWER SUPPLY;RECTIFIER;IMPRESSED CURR	RECTIFIER IMPRESSED CURRENT; HODIC PROTECTION SE CONTROL	TYPE,ANY OUTPUT,17-SAMSS-005	54000	Others	
6000001829	East Europe	COIL; REFRIGERATION;HVAC USE	COIL; COIL, REFRIGERATION, HOT/CHILLED WATER APPLICATIONS	TYPE,AHRI 410 CERTIFIED	169000	Others	
6000001829	West Europe	COIL; REFRIGERATION;HVAC USE	COIL; COIL, REFRIGERATION, HOT/CHILLED WATER APPLICATIONS	TYPE,AHRI 410 CERTIFIED	169000	Others	
6000001882	East Europe	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	168000
6000001882	West Europe	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	168000
6000008724	East Europe	PRELIMINARY TREATMENT/ SW SCREENING SYS	SCREEN; PRELIMINARY TREATMENT/SEAWATER SCREENING SYSTEMS	TYPE,WASTEWATER	225100	Others	
6000013330	East Europe	FILTER, AIR, CHEMICAL	FILTER; ANY TYPE,FOR AIR, CHEMICAL,ISA 571.04,ASTM-D6646 OR ASHRA	171000	Others		
6000013330	West Europe	FILTER, AIR, CHEMICAL	FILTER; ANY TYPE,FOR AIR, CHEMICAL,ISA 571.04,ASTM-D6646 OR ASHRA	171000	Others		
6000013160	West Europe	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	17000
6000002244	West Europe	COMPRESSOR; AIR; CENTRIFUGAL; INTEGRALLY	COMPRESSOR AIR; CENTRIFUGAL, INTEGRALLY GEARED TYPE,31-SAMSS-006	182000	Rotating Equipment		
6000002351	West Europe	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	187000	Rotating Equipment	
6000002417	West Europe	FILTER; ELEMENT; COMBUSTION GAS TURBINE;	FILTER ELEMENT; FOR COMBUSTION GAS TURBINE,32-SAMSS-008,AIR	INLET, FINAL STAGE	196000	Rotating Equipment	
6000010363	West Europe	PUMP; MULTIPHASE, HELICO-AXIAL TYPE,ANY,31-SAMSS-004		PUMP; MULTIPHASE, HELICO-AXIAL TYPE,ANY,31-SAMSS-004	190000	Rotating Equipment	
6000017500	West Europe	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
6000000134	West Europe	SLEEVE; PIPE; TWO HALVES; BOLTED FLANGED	SLEEVE PIPE BOLTED; ANY NOM PIPE,STEEL,ANY WP,FOR PIPE	REPAIR,FOR PIPE REPAIR	34000	Static Equipment	
6000000134	West Europe	SLEEVE; PIPE; TWO HALVES; BOLTED FLANGED	SLEEVE PIPE BOLTED; ANY NOM PIPE,STEEL,ANY WP,FOR PIPE	REPAIR,FOR PIPE REPAIR	34000	Static Equipment	
6000000150	West Europe	TEE; PIPE, SPLIT TEE; HOT TAPPING; CS	TEE PIPE; ANY NPS,STEEL,EXTRUDED OR WELDED	BRANCH,02-SAMSS-006,SPLIT TEE, FLANGE WELDED TO BRANCH, FOR HOT	TAPPING	34000	Static Equipment
6000000275	West Europe	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	28000	Static Equipment
6000000308	West Europe	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	25000
6000001838	East Europe	CONTROLLER; PROGRAMMABLE LOGIC; ENERGY M	CONTROLLER PROGRAMMABLE LOGIC; ANY INPUT PT,ANY OUTPUT	P,SAES-K-011,UL-916 ASHRAE 135,ENERGY MANAGEMENT SYSTEM: BUILDING	178000	Static Equipment	
6000001838	West Europe	CONTROLLER; PROGRAMMABLE LOGIC; ENERGY M	CONTROLLER PROGRAMMABLE LOGIC; ANY INPUT PT,ANY OUTPUT	P,SAES-K-011,UL-916 ASHRAE 135,ENERGY MANAGEMENT SYSTEM: BUILDING	178000	Static Equipment	
6000002404	East Europe	TOWER; COOLING; WATER;	TOWER COOLING; WATER TYPE,27-SAMSS-003,ASHRAE 90.1	179000	Static Equipment		
6000002515	East Europe	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.	211000
6000009264	West Europe	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
6000015600	West Europe	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
6000017340	East Europe	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	24000	Static Equipment
6000017340	West Europe	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	24000	Static Equipment

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6000017570	West Europe	BURNER, BOILER, STEAM GENERATOR	BURNER; BOILER, STEAM GENERATOR TYPE,SIZE ANY,ANY SHAPE,ANY	METAL,32-SAMSS-021	209000	Static Equipment	
6000017620	West Europe	UNIT, PREFABRICATED SUBSTATION, Yes, Yes	UNIT; PREFABRICATED SUBSTATION TYPE,16-SAMSS-524,PREFABRICATED SUBSTATIONS RATED UP TO 52KV FOR OFFSHORE AND ONSHORE.	40500	Electrical		
6000017620	East Europe	UNIT, PREFABRICATED SUBSTATION, Yes, Yes	UNIT; PREFABRICATED SUBSTATION TYPE,16-SAMSS-524,PREFABRICATED SUBSTATIONS RATED UP TO 52KV FOR OFFSHORE AND ONSHORE.	40500	Electrical		
6000010111	East Europe	POWER SUPPLY;ELECTRICAL;SOLAR,CP	POWER SUPPLY ELECTRICAL; HODIC PROTECTION POWER PLY ELECTRICAL SOLAR POWER TYPE,ANY POWER,ANY,17-SAMSS-012	54000	Electrical		
6000010111	West Europe	POWER SUPPLY;ELECTRICAL;SOLAR,CP	POWER SUPPLY ELECTRICAL; HODIC PROTECTION POWER PLY ELECTRICAL SOLAR POWER TYPE,ANY POWER,ANY,17-SAMSS-012	54000	Electrical		
600001040	East Europe	ANODE GALVANIC;MAGNESIUM,WITHOUT LEAD,CP	ANODE GALVANIC; MAGNESIUM,17-SAMSS-006,CATHODIC PROTECTION WITHOUT LEADS	54200	Electrical		
600001040	West Europe	ANODE GALVANIC;MAGNESIUM,WITHOUT LEAD,CP	ANODE GALVANIC; MAGNESIUM,17-SAMSS-006,CATHODIC PROTECTION WITHOUT LEADS	54200	Electrical		
6000002732	East Europe	MONITOR; FLAME MONITORING SYSTEM	MONITOR; IGNITERS AND BURNERS USED E MONITORING SYSTEM D IN FIRED EQUIPMENT. TYPE,ANY RANGE,34-SAMSS-617	88000	Instrumentation and IT		
6000002732	West Europe	MONITOR; FLAME MONITORING SYSTEM	MONITOR; IGNITERS AND BURNERS USED E MONITORING SYSTEM D IN FIRED EQUIPMENT. TYPE,ANY RANGE,34-SAMSS-617	88000	Instrumentation and IT		
6000014893	East Europe	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.	213000	Instrumentation and IT		
6000014893	West Europe	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.	213000	Instrumentation and IT		
6000014971	West Europe	COUPLER:LPG LOADING,INCLUDE VAPOR	COUPLER; LPG LOADING TYPE,SIZE ALL SIZES,HARD PIPE TERMINAL,INCLUDE VAPOR AND BREAKAWAY COUPLERS,CONTACT CSD FOR DETAILS	33000	Static Equipment		
6000016802	East Europe	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	54200	Electrical		
6000016802	West Europe	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	54200	Electrical		
6000016831	West Europe	FIRE AND GAS DAMPER (OFFSHORE)	DAMPER; FIRE & GAS DAMPER-OFFSHORE TYPE,SIZE VARIES,STAINLESS STEEL 316L SHEET OR BETTER,INTERNATIONAL MARITIME ORGANIZATION [IMO] & SAFETY OF LIFE AT SEA [SOLAS] EN 1751,FIRE & GAS DAMPER FOR OFFSHORE [FGD-O] APPLICATIONS SHALL CONFORM TO THE FOLLOWING: #1)APPROVED 3RD-PARTY CERTIFICATE TO INTERNATIONAL MARITIME ORGANIZATION [IMO] AND SAFETY OF LIFE AT SEA [SOLAS]. #2)FGD-O SHALL BE CONSTRUCTED AND ASSEMBLED IN ITS ENTIRETY AT FACTORY, INCLUDING ACTUATOR, INSULATION AND APPURTENANCES. #3)FGD-O SHALL BE CLASS 3 TYPE IN ACCORDANCE WITH EN 1751, MULTI-LEAF, OPPOSED BLADE TYPE COMPLETE WITH OPERATING CONTROLS AND INCORPORATING SPRING SIDE SEALS. #4)FGD-O CONSTRUCTION INSIDE BATTERY ROOMS SHALL BE CONSTRUCTED OF STAINLESS STEEL 316L SHEET OR BETTER. #5)ALL BLADES SHALL BE TOTALLY ENCLOSED WITHIN THE CASING WITH THE FGD-O IN THE FULLY OPEN POSITION. #6)FGD-O CLOSING TIME SHALL NOT BE GREATER THAN 3 SEC. #7)FGD-O SHALL BE EQUIPPED WITH FUSIBLE LINKS THAT ARE RATED FOR TEMPERATURES AS PER SOLAS/IMO. #8)LOCAL VISUAL INDICATION OF FGD-O OPEN OR CLOSE STATUS SHALL BE PROVIDED BY A VISIBLE POINTER. #9)ENGRAVED NAMEPLATES SHALL BE MECHANICALLY FIXED TO EACH FGD-O WHICH SHALL INDICATE, INFORMATION THAT INCLUDE, BUT NOT LIMITED TO THE FOLLOWING: #A) MANUFACTURER NAME #B) SERIAL NUMBER#C) TAG NUMBER#D) PROJECT REFERENCE#E) YEAR OF MANUFACTURE#F) AIRFLOW#G) SIZE#H) WEIGHT#I) FIRE RATING #J) DIRECTION OF AIRFLOW.#	171000	Others		

Material	Region	Description	Long description	MSG	Commodity	Note	9CAT
6000016831	West Europe	FIRE AND GAS DAMPER (OFFSHORE)	DAMPER; FIRE & GAS DAMPER-OFFSHORE TYPE,SIZE VARIES,STAINLESS STEEL 316L SHEET OR BETTER,INTERNATIONAL MARITIME ORGANIZATION [IMO] & SAFETY OF LIFE AT SEA [SOLAS] EN 1751,FIRE & GAS DAMPER FOR OFFSHORE [FGD-O] APPLICATIONS SHALL CONFORM TO THE FOLLOWING: #1)APPROVED 3RD-PARTY CERTIFICATE TO INTERNATIONAL MARITIME ORGANIZATION [IMO] AND SAFETY OF LIFE AT SEA [SOLAS]. #2)FGD-O SHALL BE CONSTRUCTED AND ASSEMBLED IN ITS ENTIRETY AT FACTORY, INCLUDING ACTUATOR, INSULATION AND APPURTENANCES. #3)FGD-O SHALL BE CLASS 3 TYPE IN ACCORDANCE WITH EN 1751, MULTI-LEAF, OPPOSED BLADE TYPE COMPLETE WITH OPERATING CONTROLS AND INCORPORATING SPRING SIDE SEALS. #4)FGD-O CONSTRUCTION INSIDE BATTERY ROOMS SHALL BE CONSTRUCTED OF STAINLESS STEEL 316L SHEET OR BETTER. #5)ALL BLADES SHALL BE TOTALLY ENCLOSED WITHIN THE CASING WITH THE FGD-O IN THE FULLY OPEN POSITION. #6)FGD-O CLOSING TIME SHALL NOT BE GREATER THAN 3 SEC. #7)FGD-O SHALL BE EQUIPPED WITH FUSIBLE LINKS THAT ARE RATED FOR TEMPERATURES AS PER SOLAS/IMO. #8)LOCAL VISUAL INDICATION OF FGD-O OPEN OR CLOSE STATUS SHALL BE PROVIDED BY A VISIBLE POINTER. #9)ENGRAVED NAMEPLATES SHALL BE MECHANICALLY FIXED TO EACH FGD-O WHICH SHALL INDICATE, INFORMATION THAT INCLUDE, BUT NOT LIMITED TO THE FOLLOWING: #A) MANUFACTURER NAME #B) SERIAL NUMBER#C) TAG NUMBER#D) PROJECT REFERENCE#E) YEAR OF MANUFACTURE#F) AIRFLOW#G) SIZE#H) WEIGHT#I) FIRE RATING #J) DIRECTION OF AIRFLOW.#	171000	Others		
6000017141	West Europe	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	223000	Static Equipment		
6000017260	West Europe	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	223000	Static Equipment		
6000017431	West Europe	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 FLUIDSEPARATION OF WATER FROM OIL, OIL FROM WATER, SOLIDS FROM OIL, SOLIDS FROM LIQUIDS (WATER AND GLYCOL) OR THREE PHASE SEPARATION (SOLIDS, WATER, OIL)	223000	Static Equipment		
6000009832	West Europe	CUSTODY METER, POS DISPL , LIQUID	FLOWMETER POSITIVE DISPLACEMENT; CUSTODY TRANSFER LIQUID TYPE,ANY,34-SAMSS-118	64000	Instrumentation and IT		
6000000920	West Europe	SWITCHGEAR; HV CONTROLGEAR, FIREWATER PU	SWITCHGEAR; CONTROLGEAR,FIREWATER PUMP TYPE,ANY BIL,UL-218,HIGH VOLTAGE,OUTDOOR	40000	Electrical		
6000009895	West Europe	CUSTODY DENSITY METER, LIQUID	METER DENSITY; CUSTODY TRANSFER LIQUID TYPE,34-SAMSS-510	64000	Instrumentation and IT		
6000014491	West Europe	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	33000	Static Equipment		
6000000919	West Europe	SWITCHGEAR; LV CONTROLGEAR, FIREWATER PU	SWITCHGEAR; CONTROLGEAR,FIREWATER PUMP TYPE,ANY BIL,UL-218,LOW VOLTAGE,OUTDOOR	40000	Electrical		
6000009831	West Europe	CUSTODY METER, TURBINE, LIQUID	FLOWMETER TURBINE; CUSTODY TRANSFER LIQUID TYPE,ANY,34-SAMSS-117	64000	Instrumentation and IT		
6000013000	West Europe	Multiplexer; Foundation Fieldbus (FF)	MULTIPLEXER; FOUNDATION FIELDBUS (FF) TYPE,SAES-J-904,AA MULTI-INPUT TEMPERATURE	89000	Instrumentation and IT		
6000009901	West Europe	CUSTODY FLOW COMPUTER, LIQUID, FIELD-MNT	COMPUTER FLOW; FIELD MOUNTED TYPE,34-SAMSS-841,34-SAMSS-846,FOR LIQUID AND GAS CUSTODY TRANSFER	64000	Instrumentation and IT		

Material	Region	Description	Long description	MSG	Commodity	Note	9CAT
6000015902	West Europe	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.#	36000	Electrical		