



Sayı : 38591462-720-2024-1970

09.09.2024

Konu : Aramco Tedarikçi Kayıt Sistemi Hk.

Sirküler No: 590

Sayın Üyemiz,

Türkiye Odalar ve Borsalar Birliği (TOBB) tarafından Odamıza gönderilen 05.09.2024 tarihli ekte sunulan yazıda;

Riyad Ticaret Müşavirliğimiz tarafından iletilen bir yazıya atfen, Suudi Arabistan merkezli petrol ve doğalgaz arama, çıkarma, rafinaj, taşıma ve petro kimyasal üretimi alanlarında faaliyet gösteren, Suudi Arabistan Petrol Şirketi (ARAMCO) tarafından gerçekleştirilen mal ve hizmet satın almalarında Suudi Arabistan'lı şirketlere öncelik verilmekle beraber; küresel bir şirket olması hasebiyle ülkemiz ihracatçıları açısından çok büyük iş imkanları ve katma değerli ihracat potansiyeli taşıyabileceğinin değerlendirilmekte olduğu belirtilmektedir.

Yazıda devamla, ülkemiz ihracatçılarının ARAMCO tedarikçi havuzuna girebilmeleri için söz konusu şirketin Hollanda'da kaim aşağıda irtibat bilgileri verilen ARAMCO Avrupa şubesi (ARAMCO Overseas) nezdinde ilgili adımları tamamlayarak kayıt olmaları gerektiği ifade edilerek ARAMCO tedarikçisi olabilmek için hazırlanan kılavuz ile şirketin halen aktif olarak tedarikçi aradığı ürünlere dair liste yazı ekinde iletilmektedir.

ARAMCO AVRUPA ŞUBESİ: Aramco Overseas Company B.V. (AOC), Strategic Sourcing Prinses Beatrixlaan 35 2595 AK The Hague The Netherlands Mail: Materialsourcing@aramcooverseas.com İnternet sitesi: <https://europe.aramco.com/en>

Ayrıntılı bilgi için Riyad Ticaret Müşavirliğimiz (riyad@ticaret.gov.tr) ile irtibata geçilmesi gerekmektedir.

Bilgilerinize arz/rica ederim.

Saygılarımla,

*e-imza*İsmet SALİHOĞLU  
Genel Sekreter

Ek:TOBB'dan Alınan 05.09.2024 Tarihli Yazı (34 sayfa)

**Bu belge, 5070 sayılı Elektronik İmza Kanuna göre Güvenli Elektronik İmza ile İmzalanmıştır.**

Evrakı Doğrulamak İçin :  
<https://ebys.denizticaretodasi.org.tr/enVision/Dogrula/BS4C88AM0>  
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Dağıtım:

Gereği:

- Tüm Üyeler (Odamız Web sitesi )
- Türk Armatörler Birliği
- SS Armatörler Taşıma ve İşletme Kooperatifi
- GİSBİR (Türkiye Gemi İnşa Sanayicileri Birliği Derneği)
- VDAD (Vapur Donatanları ve Acenteleri Derneği)
- TÜRKLİM ( Türkiye Liman İşletmecileri Derneği)
- KOSDER (Koster Armatörleri ve İşletmecileri Derneği)

Bilgi:

- Yönetim Kurulu Başkan ve Üyeleri

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Web: www.denizticaretodasi.org.tr E-mail: iletisim@denizticaretodasi.org.tr





## TÜRKİYE ODALAR VE BORSALAR BİRLİĞİ



Dumlupınar Bulvarı No:252 (Eskişehir Yolu 9. Km.) 06530 /ANKARA

www.tobb.org.tr - tobb@hs01.kep.tr

Sayı : E-34221550-720-9134

Tarih: 05.09.2024

Konu : Aramco Tedarikçi Kayıt Sistemi hk.

TÜM ODA VE BORSALARA  
(Genel Sekreterlik)

İlgi : Ticaret Bakanlığının 04.09.2024 tarih ve 437149 sayılı yazısı.

İlgi yazıda, Riyad Ticaret Müşavirliğimiz tarafından iletilen bir yazıya atfen, Suudi Arabistan merkezli petrol ve doğalgaz arama, çıkarma, rafinaj, taşıma ve petro kimyasal üretimi alanlarında faaliyet gösteren, Suudi Arabistan Petrol Şirketi (ARAMCO) tarafından gerçekleştirilen mal ve hizmet satın alımlarında Suudi Arabistan'lı şirketlere öncelik verilmekle beraber; küresel bir şirket olması hasebiyle ülkemiz ihracatçıları açısından çok büyük iş imkanları ve katma değerli ihracat potansiyeli taşıyabileceğinin değerlendirilmekte olduğu belirtilmektedir.

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Ayrıntılı bilgi için Riyad Ticaret Müşavirliğimiz (riyad@ticaret.gov.tr) ile irtibata geçilebilir.

Bilgilerini, konunun ilgili üyelerinize duyurulmasını rica ederim.

Saygılarımla,

*e-imza*

Ali Emre YURDAKUL  
Genel Sekreter Yardımcısı

EK:

- 1- Doing\_Business with ARAMCO\_10112023 (21 sayfa)
- 2- Aramco Materials Sourcing list Updated April (12 sayfa)



Evrakı Doğrulamak İçin : <https://belgedogrula.tobb.org.tr/belgedogrulama.aspx?eD=BSMKF691Z5>  
Tel : +90 (312) 218 20 00 (PBX) - Faks : +90 (312) 219 40 90 -91 -92... - E-Posta : info@tobb.org.tr  
Bilgi İçin: Kaan GAFFAROĞLU - Tel : 03122182220 - E-Posta : kaan.gaffaroglu@tobb.org.tr

# doing business with Saudi Aramco

With transparency, consistency and  
uniformity, it's a level playing field for all.



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# 01

## Overview



### About Saudi Aramco

A world leader in hydrocarbons exploration, production, refining, distribution, and marketing, and the world's top exporter of crude oil and natural gas liquids, Saudi Aramco's operations encompass the entire energy industry value chain.

Saudi Aramco also produces, processes, and delivers supplies of natural gas that fuel Saudi Arabia's industrial sector. The Company has an array of international subsidiaries, joint and equity ventures to deliver crude oil, refined products, and chemicals to customers worldwide. Our Procurement and Supply Chain Management organization (P&SCM) is responsible for procurement in support of Saudi Aramco.

The core strategies of our Procurement and Supply Chain Management organization are to:

- Maximize value added to stakeholders.
- Promote and expand the value of local content.
- Develop innovative supply chain methodologies.
- Develop and retain professional workforce.

### Booklet

This booklet is intended to help build strong relationships between Saudi Aramco suppliers, and to encourage the implementation of supply chain management best practices. The booklet provides an overview of Saudi Aramco's efforts to help create long-term economic growth and diversification through its In-Kingdom Total Value Add (iktva) Program. Finally, the booklet guides potential suppliers on how to join the Saudi Aramco supply chain.

# 02

## Corporate Values

### Our Values

Saudi Aramco adheres to a set of values that also guide our procurement activities. Similar values are expected from suppliers and contractors supporting our supply chain activities. Similar values are expected from suppliers and contractors supporting our supply chain.



#### Excellence

We drive for the best results and are agile in addressing new challenges



#### Safety

We operate safely and are committed to the well-being of our workforce



#### Integrity

We follow ethical standards in conducting our business



#### Accountability

We take responsibility for our actions and for meeting corporate objectives



#### Citizenship

We are a positive influence on the Kingdom, its environment, and in the communities where we live and work



# 03

## Code of conduct & safety



### Supplier code of conduct

Saudi Aramco is committed to conducting its business in an ethical manner, and requires its suppliers and contractors to share these commitments. We therefore established a Supplier Code of Conduct. All registered suppliers, and sub-contractors doing business with Saudi Aramco are required to acknowledge, and agree to abide by, the policies and principles set forth in the Supplier Code of Conduct to continue doing business with Saudi Aramco. The Supplier Code of Conduct also applies to all potential new suppliers, manufacturers, contractors, and sub-contractors. Our suppliers and contractors are expected to provide the Supplier Code of Conduct to all employees in their organizations who are involved in conducting business with Saudi Aramco.

### Saudi Aramco's safety culture

Saudi Aramco has a long and proud heritage of promoting safety as a value and way of life. P&SCM encourages our suppliers, contractors, and manufacturers to embrace the conviction that "All incidents are preventable." We encourage all supplier and contractor employees to establish safety as a personal priority while in the workplace, on the highway, or at home. We all must work

together to create and maintain a safety-oriented culture with zero tolerance for unsafe actions or behaviors.



# 04

## In-Kingdom Total Value Add (iktva) program

### What is iktva?

Saudi Aramco has launched the iktva program in 2015 with the aim to build a competitive, sustainable, and reliable Saudi industrial base. This development is contributing to the growth and diversification of the national economy, in line with the vision 2030.

Saudi Aramco works with companies to draw their path towards maximizing localization through different components, local procurement and investments, Saudi hiring and training, Small and Medium Enterprises (SME) Development, and Research and Development.

iktva also drives suppliers' local investment to close supply chain gaps through: identifying, enabling and monitoring business opportunities. So far, we have identified more than 200 opportunities across 10 different sectors.

To learn more and participate in iktva

Email: [iktva@aramco.com](mailto:iktva@aramco.com)  
Website: [iktva.sa](http://iktva.sa)

# 05

## Supplier relations

### Supplier relationship

Supplier Relationship Management's (SRM's) goal is to develop mutually beneficial relationships that will allow us and our suppliers for goods and services to attain the highest level of excellence. We have always worked successfully with local and international businesses – from contractors providing us with services, to suppliers offering their materials.

Saudi Aramco expects its suppliers to offer the highest level of quality standards, be innovative in their products and services, be competitive in their prices, and deliver on time. In addition, Saudi Aramco is looking for suppliers that add value to its supply chain and have the ability to scale-up to meet growth changes according to business needs.

Whether your firm is large, medium, or small; whether your relationship with Saudi Aramco is new or long-standing, we want to share business success with you in the future.

### How to reach us

The Saudi Aramco Supplier Help Desk is a one-stop shop to handle all suppliers' inquires and issues. suppliers can call Supplier Help Desk at:

**Tel: +966 800-116-1168**

**Email: [SupplierHelpDesk@aramco.com](mailto:SupplierHelpDesk@aramco.com)**

(Regular business hours, 07:00 to 16:00 KSA time, Sunday through Thursday).

## What SRM offers

SRM's function is crucial in strategically planning for and managing all interactions with the suppliers who provide goods or services to Saudi Aramco, and to maximize the value of those interactions.

Our thrust is to have supplier's relationship a focal point for all interactions with the supplier's community, providing comprehensive services to them, help them well-perform and support them to develop and prosper. This interaction will ensure the values that we are looking from timely delivery, high quality and reliability along with of course strong relationship.

SRM handles five main areas of supplier interactions, including the following:

### **Registration and qualification:**

Responsible for registration of suppliers as well as coordination with the concerned organizations within Saudi Aramco for suppliers' qualification.

### **Suppliers' performance:**

Monitoring suppliers' performance as well as collaborate with internal stakeholders to improve suppliers' performance.

**Supplier external relations:** Dedicated to promoting the iktva program as we handle external relations with suppliers.

**Supplier Solutions Center:** Dedicated to the development of existing local manufacturers and expanding their capabilities.



## Our relation focus

The business relationship between Saudi Aramco and suppliers and contractors requires a sustained commitment to continuously improve service and efficiency. P&SCM has implemented effective supply chain strategies and industry best practices as part of its everyday procurement activities.

### **Together, suppliers and Saudi Aramco provide consistent value and service by:**

- Developing value-added relationships and greater levels of trust
- Delivering greater customer satisfaction
- Reducing inventory throughout the supply chain
- Conducting joint process improvement meetings
- Deploying technology effectively
- Sharing information
- Implementing cost reduction opportunities
- Continuously improving all supply chain management practices.

Suppliers interested to do business with Saudi Aramco are required to be registered and qualified as a first step.

The following section will outline the requirement for Saudi Aramco registration:

### **Supplier Registration:**

Our Saudi Aramco Supplier Registration Office in Dhahran, Saudi Arabia, acts as the single point-of contact for supplier registration inquiries with Saudi Aramco.

The Saudi Aramco Supplier Registration Office is responsible for Suppliers located in Saudi Arabia, GCC and MENA regions. Suppliers located in regions other than the regions listed above should contact the proper Supplier Registration Office listed under International Suppliers section.

The Supplier Registration Approval Process starts with the Supplier submitting a registration request through our e-Marketplace platform SAP Ariba. Once a complete package is received, a dedicated SRM Analyst will review and validate all required documents. Upon approval, the Supplier will be issued Saudi Aramco Vendor ID (100xxxxx). It is important

to note that registration as a Saudi Aramco supplier does not guarantee future business with Saudi Aramco. The registration process merely establishes the Supplier with Saudi Aramco and identifies primary contacts and other basic information about your company.

#### Registration Requirements

1. Original Acknowledgment form of Saudi Aramco's Suppliers Code of Conduct. This form must be signed by an authorized company representative, certified with a Company business stamp, and authenticated by the appropriate Saudi Arabian regional Chamber of Commerce.
2. A valid copy of the Commercial Registration (CR) Certificate.
3. A valid copy of the Industrial License Certification (Manufacturers Only).
4. A valid copy of the Saudi Arabian General Investment Authority (SAGIA) Certification for entities owned full or partially by a foreign investor(s) or a foreign organizations.\*
5. A valid copy of the Zakat Certification issued by the General Authority of Zakat & Tax (GAZT).\*
6. A valid copy of the Value

Added Tax (VAT) Certification showing the VAT ID issued by the General Authority of a

7. A valid copy of the General Organization for Social Insurance (GOSI) Certification referencing the CR number under registration and Saudization Letter from the Labor Office.\*
8. A valid copy of the Civil Defense License or an equivalent government License.\*
9. A valid copy of the Chamber of Commerce & Industry Membership Certification.\*
10. Contractor Government Classification, if applicable (Service Providers only).
11. A letter from the bank with which the company is dealing, stating the type of service that the bank normally provides to your company and relationship status.
12. A valid copy of the owner's National ID or Iqama ID for an individual owner (Establishment) or the up-to- date company's Articles of Association

(Organization). For Saudi organizations that are owned by at least one or more organization, Please provide each organization's up-to-date company's Articles of Association and Commercial Registration (CR) Certification.

13. Authorized Signatory Letter identifying Authorized Company Employees dealing with SA.
  14. Cybersecurity Compliance Certificate issued by one of Saudi Aramco's approved audit firms
- \* Note-1: The document is applicable and required for Saudi Arabian suppliers.*
- \*\* Note-2: The document is applicable and required for Saudi Arabian suppliers and suppliers located in countries of the Gulf Cooperation Council (GCC).*

## Supplier agency linkage

“ Our Supplier Registration Unit (SRU) is the single point-of contact for local manufacturer and supplier registration. ”

To link an approved local vendor to qualified sources of materials (manufacturers), the following conditions must be provided to become a Saudi Agent registered in the Saudi Aramco supplier database:

1. Vendor shall be a Saudi Agent of an approved Saudi Aramco manufacturer.
2. Vendor shall provide a Commercial Agency Registration Certificate.
3. Vendor shall provide an authenticated Appointment Letter from the Saudi Aramco-approved manufacturer detailing the agency agreement

#### Manufacturer Qualification

The Manufacturer Approval Process starts once the manufacturer registration has been completed and the manufacturer has obtained a Vendor ID via our e-Marketplace platform SAP Ariba. A Saudi Aramco

SRM Account Manager will be assigned to review the manufacturer's registration package and develop, accordingly, a Technical Qualification Questionnaire. The manufacturer will be required to submit additional Technical and Quality packages, based on SRM Account Manager evaluation.

After reviewing and validating all technical and quality requirements, the SRM Account Manager will initiate parallel workflows to responsible technical and quality entities for approval. Manufacturers may, require a plant site visit by Saudi Aramco inspectors to assess implementation and effectiveness of the manufacturers' quality management system and conformance with ISO 9001 standards. Saudi Aramco inspectors may also evaluate the manufacturer's capabilities to produce materials/equipment which meets Saudi Aramco's material specifications. Any corrective action that may be required will be reported to the manufacturer's management.

upon approval of both the technical and quality entities, be qualified and linked to selective Saudi Aramco material numbers (9COMs). The manufacturer becomes an approved and qualified source of supply. It is important to note that registration and qualification as a Saudi Aramco supplier

## Qualification requirements



### Quality Requirements

1. An uncontrolled copy of the quality management system manual.
2. Copies of the mandatory quality systems procedures as required by ISO 9001:
  - Control of documents
  - Control of records
  - Control of nonconforming products
  - Internal audit
  - Corrective action
  - Preventive action
1. A copy of the ISO 9001:2008 or later certificate.
2. Minutes of a recent Management Review Meeting.
3. A recent ISO registration Surveillance Audit Report.
4. A Complete list of QMS procedures/work

## Technical requirements

1. Company Profile (Overview).
2. Product Catalog - detailing each product Technical Specification.
3. For chemicals, MSDS, Product Specification Sheet, Certificate of Analysis, Country of Origin.
4. Manufacturing Facilities Design Overview (Shop Layout).
5. Manufacturing Production Flow Chart.
6. List of Key Manufacturing Equipment Installed at the Manufacturer Plant.
7. List of Key Manufacturing Raw Materials
8. Resume (CV) of the Production Manager explaining his qualifications.
9. List of major users (with contact person address) for each product List of Sub-supplier with itemized supply scope.
10. Compliance Letter to Saudi Aramco Engineering Specifications/Standards and equivalent Procedures.

*\*Note: We recommend that all manufacturers should review the Engineering Requirements for Technical & Quality Approval (ERTQA) Handbook before submitting a registration request.*

### Service Supplier Qualification

To support our role as a leading supplier of the world's oil and gas markets, Saudi Aramco partners with contractors for a wide range of services and has opportunities for contractors of all sizes.

The Sourcing Unit of Saudi Aramco's Contracting Department is responsible for developing Qualified Supplier Lists for various services required by Saudi Aramco. The Sourcing Unit is also responsible for sourcing, qualifying, and placing contractors on these Qualified Supplier Lists for consideration in future service procurements. Qualified Supplier Lists are Saudi Aramco's preferred method for identifying service suppliers to solicit for frequently procured, high value services. Service suppliers — registered with Saudi Aramco — may request to be considered for qualification and inclusion on Qualified Supplier Lists for specific services.

A comprehensive listing of all services opportunities could be found at

<https://www.aramco.com/en/workingwithus/suppliers/contracting-opportunities/>

## Registration as an international supplier

Manufacturers wishing to become an approved Saudi Aramco supplier, or existing Saudi Aramco approved international manufacturers offering additional products, should communicate to the appropriate affiliated company, located in their geographical area (see the Contact Information table). The affiliate will evaluate the information provided and determine whether there is a business need for additional products/suppliers.

The registration documents will be forwarded to strategic sourcing for evaluation in terms of technical, financial, and strategic needs. Once our Industrial Development & Strategic Supply Department decides that the applying manufacturer is a potential source, the approval process will be initiated.

Concerned Saudi Aramco organizations will review the plant's technical documentation and QMS manual when it is determined that the factory is ready for comprehensive inspection. Pending satisfactory completion of this review, an official plant survey will be scheduled. The official survey findings will be communicated to the plant's management noting any deficiencies requiring corrective action. If results of the plant survey are acceptable, notification in the form of an approval letter will be sent to the plant's management indicating approval for specific products and providing a unique vendor identification number. It is important to note that registration as an approved manufacturer with Saudi Aramco is not a guarantee of future business.



## Suppliers resources

### Material Supplier Guide

Available from the Saudi Aramco website, the newly developed Material Supplier Guide provides suppliers with details on how to register and update their records, and what systems and support are available. In addition, the guide includes information about materials delivery and payment terms.

Note that the Material Supplier Guide is subject to change and will be updated frequently and republished as necessary.

How to download the Material Supplier Guide:

1. Open your Internet browser and go to our website: [saudiaramco.com](http://saudiaramco.com)
2. Select the "Partnering with us" tab
3. Select "suppliers"
4. Click on Resources
5. Go to "Material Supplier Guide" and click on the link to download the guide as a PDF document.

financially and technically acceptable. International suppliers who demonstrate their products offer significant technical or commercial benefit to the Company will be closely considered.

### ERTQA Handbook

This Engineering Requirements for Technical and Quality Approval (ERTQA) handbook has been developed by Saudi Aramco Engineering Services (SAES) to provide clear approval guidelines for new and existing local manufacturers of engineering commodities. The handbook includes approval requirements based on Saudi Aramco (SA) and industry applicable standards, as well as ISO 9001 Quality Management System (QMS) requirements. The ERTQA handbook can be downloaded from:

[www.iktva.sa](http://www.iktva.sa) > [Download](#) > [Guidelines](#)

Saudi Aramco is increasingly using e-procurement as a means of conducting transactions and enabling real-time tracking of key procurement information.

The Saudi Aramco supplier portal is the electronic gateway between us and our suppliers and increases the quickness and accuracy of key supply chain information between stakeholders. All registered suppliers should:

- Maintain a high-speed Internet connection to facilitate access to the Saudi Aramco supplier portal and have the capability to provide and manage Web-based catalogs.
- Evaluate, measure, and monitor supplier performance through supplier scorecards (key performance indicators, or KPIs)
- Set protocols to inform the suppliers of their performance and maintain a positive reinforcement environment to encourage optimum performance
- Coordinate and participate in process improvement initiatives

All supplier portal access requests, Technical Questions should be forwarded to:

Tel: **800-116-1168**

**Service supplier Email:**

**supplier-portal@aramco.com**

Suppliers must immediately notify Saudi Aramco of the end of service for any employee who has been granted access to the Saudi Aramco supplier portal.

### Supplier Declaration

All suppliers (in-Kingdom and out-of-Kingdom) must attest to the accuracy and completeness of all documentation and submittals to ensure information provided is correct, up to date, and accurate.

Noncompliance will delay the registration process, and submittal of fraudulent or forged information will be grounds for indefinite suspension from bidding on work from Saudi Aramco.

Any changes in company ownership, commercial activities, and/or contact information by registered suppliers, whether they are service provider or manufacturers, should be communicated. Suppliers' representatives are encouraged to share the guide with their colleagues and staff who deal with different organizations in Saudi Aramco.

Supplier Performance

Because supply chain management is a key success factor for us, we have an established team to sustain

high supplier performance and to enhance the performance of low performing suppliers. The Supplier Performance Unit (SPU) is chartered to ensure a portfolio of best-in-class suppliers to support our operations. The evaluation of supplier performance can lead to developing suppliers to increase their potential for reducing costs, mitigating risks, driving continuous improvement, and increasing agility.

SPU has two specific goals for creating a portfolio of reliable suppliers

### Sustain high supplier performance:

The SPU will monitor the suppliers that perform well to ensure that they continue to excel. This will be achieved by helping the supplier to identify and overcome obstacles in a timely manner. SPU will also implement a recognition and incentive program to propagate high performing suppliers.

Performance enhancement of low performing suppliers:

The SPU, in collaboration with internal stakeholders,

will closely monitor low performers to identify root causes and agree on corrective actions to boost performance.

The SPU holds primary responsibility for the performance monitoring of our supplier base. Within P&SCM, the SPU focuses on the following roles and responsibilities:

- Adapt industry best practices and technologies for supplier performance monitoring
- Collaborate with internal stakeholders (buyers, customers, vendor inspection and consulting services) to improve supplier performance
- Evaluate, measure, and monitor supplier performance through supplier scorecards (key performance indicators, or KPIs)
- Set protocols to inform the suppliers of their performance and maintain a positive reinforcement environment to encourage optimum performance
- Coordinate and participate in process improvement initiatives

# 06

## Procurement & contracting Policies and Procedures

### Procurement policies

We pursue best practice solutions for developing reliable suppliers to obtain the best value, quality, and supply chain security. These objectives are achieved through a variety of strategies, including agreement-based procurement, cost-effective, long-term supply contracts, supplier managed inventory programs, and innovative solutions such as corporate level agreements to consolidate spend on materials, spare parts, and services.

#### Local content focus

We envision local manufacturing expanding to provide a significantly greater percentage of our material requirements, with local stocker distributors providing the greatest portion of the balance. These close relationships will foster continued development of our national supply and service base to become top echelon providers within the oil and gas industry – key enablers of our continued success.

#### Capital program sourcing

A large percentage of the materials and services required to support our capital program and various joint venture partnerships is sourced from global lump sum turnkey (LSTK) contracts. For information on supply chain opportunities in these areas, communicate directly with the respective contractor.

#### Key supply chain strategies

To promote the development of local sources of supply while achieving Saudi Aramco’s commercial requirements,

P&SCM pursues a number of key supply chain strategies:

- Competitive bidding enables transparency and upholds the commercial interests of both Saudi Aramco and the local manufacturer/supplier community.
- Where appropriate, the total cost of ownership will be the basis for selection, rather than initial acquisition price.
- “Made in Saudi Arabia” is in our commercial interest and is essential to the long-term growth and economic Well-being of the Kingdom, and will be accomplished via promotion of foreign direct investment and support of local in-Kingdom manufacturing
- Utilizing and supporting best-in-class suppliers
- Expanding purchase agreement coverage through cost-effective, lean procurement practices
- Increasing national logistics and warehousing capabilities
- Maximizing e-Procurement and e-Content

“Made in Saudi Arabia” is essential to the long-term growth and economic well-being of the Kingdom”



## Purchasing guidelines

### Purchasing guidelines

Our role in fostering the development of the national economy is closely associated with the evolving capabilities of the domestic market to effectively support our requirements for materials, products, and services on a competitive basis.

Our sourcing activities are governed by the following:

- Conducting all purchasing transactions fairly, honestly, with high integrity, and in accordance with the highest ethical standards and all applicable laws
- Considering quality, delivery and price, reliability of vendors, operational costs, in-Kingdom after sales support, end-use cost, work simplification, and standardization in making placement decisions
- Procuring goods from financially and technically qualified and reliable sources

- Focusing on the total cost of ownership
- Encouraging Saudization of the workforce

### Supplier contribution

Suppliers represent an integral part of our supply chain by:

- Adding value through product quality and support, competitive pricing, and a focus on lean supply chain models
- Utilizing enabling technologies that allow supply chain participants to effectively access relevant supply chain information
- Supporting effective development and training programs for their employees
- Seeking new opportunities for local manufacturing
- Building a robust information technology infrastructure with e-business transaction capability.

## Contracting policies

All aspects of every contractor screening inquiry and Invitation for Proposal are confidential.

The following policies are highlighted for your attention:

Saudi Aramco policies regarding business ethics must be adhered to and a high standard of ethics and fairness shall be maintained

All contracts must be in writing and shall be executed before committing work to a contractor, or a contractor starting work

Lump sum contracting is normally the preferred contract form when it can be used properly

For work to be performed in Saudi Arabia, Saudi Aramco will normally consider contractor's technical and financial qualifications and will award contracts to only those contractors who are properly registered or licensed to conduct business in Saudi Arabia

We encourage the continuous development of a strong, broad-based local contractor community in our various areas of operations for optimal commercialization. In support of this policy, we distribute contract work as widely as possible among qualified Saudi Arabian contractors.

### Local (in-Kingdom) contractors

We require current, up-to-date details on our contractors.

Contractors that are new to Saudi Aramco may register their interest through the

Saudi Aramco Registration website through SAP Ariba System. The registration process provides us with current contact information and other basic data about contractors.

### International contractors

Contractors that wish to do business with us should communicate their interest with the appropriate Saudi Aramco affiliate company — Aramco Europe, or Aramco Americas — located in their geographical area. See the Contact Information table for details.

### Confidentiality

Saudi Aramco considers all aspects — bid documents, attachments, and drawings

— of every contractor screening inquiry and Invitation for Proposal to be confidential. A contractor must agree before responding to a screening inquiry or bidding on Saudi Aramco work to limit the disclosure of information to only those employees who require it, either to respond to an inquiry or to prepare a bid.

Contractors must also agree not to disclose any information contained in a screening inquiry or an Invitation for Proposal to a third party without obtaining Saudi Aramco's prior written approval. In this regard, a contractor may be required to sign a confidentiality agreement.

### Contractor sourcing and Service qualification

To support our role as a leading supplier of the world's oil and gas markets, Saudi Aramco partners with contractors for a wide range of services and has opportunities for contractors of all sizes. The Sourcing & Service qualification Group of Saudi Aramco's Contracting Department is responsible for supporting proponent organizations within Saudi Aramco by developing General Bid Slates for various services required by the proponents. The Group is also responsible for sourcing, prequalifying, and placing contractors on these General Bid Slates for consideration in future contract procurement actions.

Please note that registration or prequalification with Saudi Aramco is not a guarantee of future work. Furthermore, contractors' overall safety provides valuable insight into their safety culture awareness and quality of work. Therefore, and in line with Saudi Aramco's Corporate Values, contractors shall be requested to submit a separate pass/fail Safety Prequalification to evaluate their safety program and safety performance to be included on General Bid Slates.

### Saudi Aramco contract procurement process

The contract procurement process is described in the following section.

Communications during all

stages of contract procurement between bidders and Saudi Aramco must be authorized and conducted by the Saudi Aramco Contracting Department.

### Bid slate development

We use four different methods for procuring contracts:

1. *Open Bidding:* A notice is posted on the Saudi Aramco eMarketplace platform. This Information for Bidders notice provides overall descriptions of the work, any prequalification requirements that must be met, and the date of the Job Explanation Meeting. Any contractor may bid when this procurement method is used.
2. *Open Solicitations with Selective Bidding:* These are also posted on the Saudi Aramco eMarketplace platform to allow all contractors the equal opportunity to indicate interest in submitting a bid. After a careful analysis of the responses, we select those contractors considered to be best qualified for bidding on the work and extend them an invitation to the Job Explanation Meeting. This is our most common and preferred

procurement method.

3. *Restrictive Selective Bidding:* We review the record of contractors whose performance indicates capabilities in a particular type of work and then select those contractors considered most capable of performing the work. We use this method when it is determined that the contract requirements are so stringent that only a few contractors qualify, or when the high cost of preparing a bid indicates that the size of the bid slate should be limited.
4. *Sole Source:* We do not favor this method of contract procurement, and it is used only after a careful review of the unique circumstances that may justify it. Sole Source procurement is justified, for example, when a contractor provides a unique proprietary service, when there is an unusual urgency to the work, or when a contractor has mobilized and the limited work scope does not justify mobilizing another contractor. For a contractor's commercial bid to be considered for any contract, the contractor must be considered qualified to perform the work. We review technical and financial qualifications to determine whether a contractor is qualified or not.

Preliminary contractor capabilities are determined

primarily from the eMarketplace, including contractor performance reports on other contracts. Additional prequalification or technical proposal information unique to the specific procurement may be requested from the contractor.

### Job Explanation Meeting

A Job Explanation Meeting (JEM) is held to explain the contract, describe the scope of the work, and to answer any questions concerning the contract or the procurement process. If possible, the complete bid package is distributed to the bidders for review before the JEM. The bid package consists of a pro forma contract, the scope of work — including the plans and specifications of the proposed project — general instructions to the bidders for preparing the bid, and any special instructions that the particular project may require.

In many cases, the bidders are invited to visit the proposed contract work site to familiarize themselves more fully with the work requirements. During JEM and job site visits, bidders are encouraged to ask questions.

Questions that arise following JEM and site visits must be submitted in writing to the Contract Representative, who will respond in writing and provide a copy of the questions and answers to all bidders. The Contract Representative will also

transmit to all bidders, in writing, any modifications to the bid package during the bidding period.

### Bid closing date and bid opening

The Instructions to Bidders clearly specify a bid closing date and a time. Bids must be electronically through Saudi Aramco eMarketplace platform.

In many cases, bidders are requested to submit two separate proposals: a technical proposal and a commercial proposal. In these instances, the bidder's technical proposal is evaluated first and the bidder's commercial proposal will be evaluated only if the technical proposal is determined to be sufficient to meet contract's requirements.

All bid openings are conducted by the Contracting Department in a strict compliance with Saudi Aramco procedures designed to ensure confidentiality and fairness to all bidders.

Following the bid opening, there will be no information released on the progress of the bid evaluation. This information is strictly confidential.

Our contracts provide for the fair and equitable resolution of disputes that may arise between Saudi Aramco and contractors.

### Competitive bids

Saudi Aramco does promote competition and encourage bidders to submit their best prices through competitive bidding.

Saudi Aramco may conduct clarification meetings with one or more bidders before awarding the contract to ensure that both parties have a clear understanding of the work and the terms and conditions under which it will be performed.

### Contract award

When the bid evaluation has been completed by a Saudi Aramco Bid Review Team, the recommended award is presented to Saudi Aramco management for approval.

### Debriefing meeting

An unsuccessful bidder may request in writing to the Contracting Department that a debriefing meeting be held to determine why the contractor's bid or prequalification proposal was not successful. We encourage debriefing meetings because they help contractors improve subsequent proposals. Note that proposals from competitors are never disclosed to the contractor. Debriefing for unsuccessful prequalification will not be held until after the JEM. Debriefing for unsuccessful contractors will not take place until after contract award.

### Contract performance and administration

Day-to-day administration of the contract is the responsibility of the contract's proponent organization. Contract changes are negotiated with the contractor as needs arise and take the form of either change orders or amendments to the base contract.

### Claims

Saudi Aramco contracts also provide for the fair and equitable resolution of disputes that may arise between Saudi Aramco and contractors.

The Claims and Estimating Unit of the Contracting Department is responsible for the resolution of claims, which must be filed according to the terms of each contract.

Resolution occurs through Saudi Aramco's claim process and as approved by the Saudi Aramco contract signatory. Contractors have the right to appeal that decision through the establishment of a Saudi Aramco Contract Dispute Settlement Board (Appeal Board). In addition, Saudi Aramco contracts normally contain arbitration provisions.

### Applicable laws and manpower

Contractors are expected to comply with all applicable Government laws and regulations, and to structure their bids accordingly. We strongly encourage contractors to employ Saudi

nationals for the performance of work in alignment with Saudi national policy and our commercial strategic direction.

When the contractor finds it necessary to employ foreign labor, compliance with Saudi Arabia Government regulations and issuance of visas and Iqamas is the responsibility of the contractor. Saudi Aramco does not provide assistance in this regard.

### Contractor assistance

Questions regarding specific contract procurement should be referred to the Contract Representative in the Contracting Department responsible for that procurement.

For general information or for submitting updated contractor information, contractors may contact the Saudi Aramco Suppliers Help Desk.

### Contracting summary

Contracting Department main objective is to Provide Reliable, Safe, and Cost-Effective Procurement Services to Saudi Aramco and its Affiliates, which Contribute to the Local Economy, with focus on IKTV & Saudization by Highly Skilled, Motivated

Contract Department personnel and a Leadership Team dedicated to personnel development in conjunction with continuous, quantifiable improvement of our Procurement life cycle.



# 07

## Contact Information



## Contact information

country / company	function	area of responsibility	address, phone & fax
Saudi Arabia / Saudi Aramco	Saudi Aramco Supplier Help Desk	One-stop shop to handle all inquiries and issues from suppliers	Supplier Help Desk, Saudi Aramco Box 77-X, North Park 2, Dhahran 31311, Saudi Arabia. Tel: +966-800-116-1168, Email: SupplierHelpDesk@aramco.com Online registration: <a href="http://www.saudiaramco.com/becomeasupplier">www.saudiaramco.com/becomeasupplier</a>
Saudi Arabia / Saudi Aramco	Supporting Local Industrial Development	Saudi Arabia	Supplier Solutions Center, Saudi Aramco Box 77-X, North Park 2, Dhahran 31311, Saudi Arabia. Fax: +966-13-874-0015 , Email: SSC@aramco.com
Saudi Arabia / Saudi Aramco	Supplier performance management	Saudi Arabia	Supplier Performance Unit, Saudi Aramco Box 77-X, North Park 2, Dhahran 31311, Saudi Arabia. Tel: +966-13-874-0061, Fax: +966-13-874-0015, Email: <a href="mailto:supplier-performance@aramco.com">supplier-performance@aramco.com</a>
North & South Americas / Aramco Americas	Supplier Registration	The Americas	Aramco Americas , Two Allen Center, 1200 Smith Street, Houston, TX 77002 Tel: +1-(713)-432-5555, Fax: +1 (713) 432-4716, Strategic Sourcing, Email: <a href="mailto:Supplierrelations@AramcoAmericas.com">Supplierrelations@AramcoAmericas.com</a> Website: <a href="https://americas.aramco.com/">https://americas.aramco.com/</a>
Aramco Overseas Company B.V.	Contractor Registration	Europe and South Africa	Aramco Overseas Company B.V. (AOC) The Hague Office, Strategic Sourcing, Scheveningseweg 62-66, 2517 KX The Hague, The Netherlands, Tel: +31-(0)-88-262-2000, Fax: +31-(0)-88-262-3000, Email: <a href="mailto:SRM@aramcooverseas.com">SRM@aramcooverseas.com</a> Website: <a href="http://www.aramcooverseas.com/suppliers/service-suppliers/">http://www.aramcooverseas.com/suppliers/service-suppliers/</a>

## Contact information

country / company	function	area of responsibility	address, phone & fax
The Netherlands / Aramco Overseas Company	Manufacturer and Supplier Registration	Europe and South Africa	Aramco Overseas Company B.V. (AOC), The Hague Office, Strategic Sourcing, Scheveningsweg 62 - 66, 2517 KX The Hague, The Netherlands, Tel: +31 (0) 88 262-2000, Fax: +31-(0)-88-262-3000 Email: SRM@aramcooverseas.com Website: <a href="https://aramcooverseas.com/suppliers/material-suppliers">https://aramcooverseas.com/suppliers/material-suppliers</a>
Japan / Aramco Asia Japan K.K.	Manufacturer and Supplier Registration	Australia, New Zealand, Japan, Taiwan (*), Hong Kong (*)	Aramco Asia Japan K.K., 26th Floor, Marunouchi Building, 2-4-1, Marunouchi, Chiyoda-ku, Tokyo 1006326, Japan, Tel: +81-(0)3-6367-7801, Fax: +81-(0)3-3211-3544, Email: AAJ-Registration@aramcoasia.com, Website: <a href="https://japan.aramco.com/en/home.html">https://japan.aramco.com/en/home.html</a>
Aramco Asia Korea LTD	Manufacturer and Supplier Registration	Republic of Korea	Aramco Asia Korea Limited, 45F, Three IFC, 10, Gukjegeumyung-ro, Yeongdeungpo-gu, Seoul, 07326, Korea Tel: +82-(0)2-6270-5555 Fax: +82-(0)2-6270-5592 Email: aaksupplierregistration@aramcoasia.com Website: <a href="http://korea.aramco.com/en/home.html">http://korea.aramco.com/en/home.html</a>
Singapore / Aramco Asia Singapore PTE-LTD	Manufacturer and Supplier Registration	SE Asian countries such as Malaysia, Singapore, Indonesia, Thailand, Vietnam, Cambodia, and the Philippines	Aramco Asia Singapore PTE-LTD, 6 Battery Road, #35-01/02, Singapore, 049909 Tel: +65-6224-2228, Fax: +65-6225-5388 Email: AAS-Registration@aramcoasia.com Website: <a href="http://singapore.aramco.com">http://singapore.aramco.com</a>
India / Aramco Asia India Private Limited	Manufacturer and Supplier Registration	India	Aramco Asia India Private Limited, 2A-801, 8th Floor, Two Horizon Center, DLF Phase-5, Sector 43, Gurugram-122002, Haryana, India. Tel: +91-(124)-647-3600, Fax: +91-(124)-647-3609 Email: aaiSupplierRelation@aramcoasia.com; aaiSourcing@aramcoasia.com Website: <a href="http://www.saudiaramco.com">www.saudiaramco.com</a>
China / Aramco Asia China (Aramco Far East (Beijing) Business Services Company LTD ABS	Manufacturer and Supplier Registration	China (including Taiwan and Hong Kong)	Aramco Far East (Beijing) Business Services Co., Ltd. (ABS), Shanghai Branch No. 16T60, 16F-SWFC 100 Century Avenue, Pudong New District, Shanghai 200120, PRC, Tel: +86-(0)-21-3866-5700, Fax: +86-(0)-21-6877-9080, Email: ABS-SH-Sourcing@aramcoasia.com, Website: <a href="http://china.aramco.com/en/home.html">http://china.aramco.com/en/home.html</a>







Material number	Short description	Long Description
1000021556	GLUTARALDEHYDE SOLUTION	GLUTARALDEHYDE SOLUTION ADDITIVE DRILLING FLUID; AQUEOUS SOLUTION FORM, GLUTARALDEHYDE, FOR MICROBIOCIDAL USE IN DRILLING FLUIDS TO CONTROL AEROBIC AND ANAEROBIC BACTERIA, AQUEOUS SOLUTION OF GLUTARALDEHYDE, 5 GALLON EPOXY PLASTIC CANS (IDEAL STORAGE TEMPERATURE 80°F / 26.7°C) SHIPMENT OF PRODUCTS MUST CONFORM TO SAUDI ARAMCO EXPORT PACKING MANUAL., GLUTARALDEHYDE SOLUTION: USED AS MICROBIOCIDAL IN WATER-BASED DRILLING FLUIDS TO CONTROL AEROBIC AND ANAEROBIC BACTERIA INCLUDING THE SULFATE REDUCING BACTERIA (SRB). IT SHOULD BE COMPOSED OF GLUTARALDEHYDE 25% WT. MINIMUM. IT IS CORROSIVE TO COMMON METAL AND SHOULD BE PACKAGED IN EPOXY PLASTIC CONTAINER, PROPERLY LABELED. CHEMICAL AND PHYSICAL SPECIFICATIONS: GLUTARALDEHYDE AQUEOUS SOLUTION: 25% WT. MINIMUM ODOR: PUNGENT LIKE ROTTE APPLES SPECIFIC GRAVITY 68°F (20°C): 1.01 - 1.1 IRON FE: 5 PPM MAXIMUM PH: 4. 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 FOR EVERY BATCH (COA) AND CERTIFICATE OF ORIGIN (COO). 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. (AS APPLICABLE, SAFETY DATA SHEET SHOULD BE SUBMITTED WITH PO OFFER AND DURING MATERIAL DELIVERY). PALLET, PLASTIC TYPE, HEAVY-DUTY SIZE (W X L X H), 120 X 120 X 15 CM, DOUBLE-DECK, 4-WAY ENTRY, RACKABLE/STACKABLE, ANTI-SLIP, CHEMICAL AND WEATHER RESISTANT, HYGIENIC AND RECYCLABLE AND SHALL BE CERTIFIED (BY A SAUDI ARAMCO RECOGNIZED INDEPENDENT MATERIALS TESTING AGENCY) FOR MINIMUM STATIC LOAD CAPACITY AS PER ISO 8611, MS 8314-05 PALLET PACKING SPECIFICATION.
1000021557	CALCIUM BROMIDE (CaBr2) SOLUTION	CALCIUM BROMIDE (CaBr2) SOLUTION ADDITIVE DRILLING FLUID; SINGLE SALT (CaBr2), SOLIDS-FREE BRINE FORM, CALCIUM BROMIDE (CaBr2), FOR A PURE SOLIDS-FREE BRINE USED IN COMPLETION FLUIDS AND CAN BE BLENDED WITH ZINC/CALCIUM BROMIDE AND CALCIUM CHLORIDE SOLUTIONS TO FORMULATE NON-DAMAGING FLUIDS OF DENSITIES UP TO 143 PCF (19.1 LB/GAL), CALCIUM BROMIDE, 55 GAL (208 LITER) 340 KG POLYPROPYLENE-LINED STEEL DRUMS SHIPMENT OF PRODUCTS MUST CONFORM TO SAUDI ARAMCO EXPORT PACKING MANUAL., REFER TO API 13J FIFTH EDITION, OCTOBER 2014, CALCIUM BROMIDE SOLUTION (CaBr2): PURE, SOLIDS-FREE BRINE USED FOR PREPARING COMPLETION FLUIDS AS A SINGLE CaBr2 SALT SOLUTION WITH MINIMUM DENSITY OF 1.70 GM/CC, AND CAN BE BLENDED WITH ZINC BROMIDE AND CALCIUM CHLORIDE SOLUTIONS TO FORMULATE, SOLIDS-FREE NON-DAMAGING HIGH DENSITY BRINE BLEND WITH DENSITIES UP TO 143 PCF (19.1 LB/GAL). CHEMICAL AND PHYSICAL SPECIFICATIONS: CALCIUM BROMIDE (CaBr2) SOLUTION 52% WT. MINIMUM COLOR: CLEAR LIQUID WITH NO ODOOR CHLORIDE CONTENT: 1000 P (0.1% WT.) MAXIMUM TURBIDITY: 6 NTU MAXIMUM SULPHATE CONTENT: 100 PP (0.01% WT.) MAXIMUM IRON CONTENT: 5 PPM MAXIMUM TOTAL HEAVY METALS (Zn, Pb, Hg, As AND Cd): 5 PP MAXIMUM DENSITY: 1.70 GM/CC (14.2 LB/GAL / 106 PCF) AT 70°F (20°C) MINIMUM PH OF 10% SOLUTION IN DI WATER: [BASIC.] 7- 8.5 TRUE CRYSTALLIZATION TEMPERATURE (TCT): 10°F (-12.2°C) SOLIDS RETAINED ON 5 MICRONS FILTER PAPER NONE SAUDI ARAMCO RESERVE 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, 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 (AS APPLICABLE, SAFETY DATA SHEET SHOULD BE SUBMITTED WITH PO OFFER AND DURING MATERIAL DELIVERY). PALLET, PLASTIC TYPE, HEAVY-DUTY SIZE (W X L X H), 120 X 120 X 15 CM, DOUBLE-DECK, 4-WAY ENTRY, RACKABLE/STACKABLE, ANTI-SLIP, CHEMICAL AND WEATHER RESISTANT, HYGIENIC AND RECYCLABLE AND SHALL BE CERTIFIED (BY A SAUDI ARAMCO RECOGNIZED INDEPENDENT MATERIALS TESTING AGENCY) FOR MINIMUM STATIC LOAD CAPACITY AS PER ISO 8611, MS 8314-05 PALLET PACKING SPECIFICATION.
1000021558	CALCIUM HYDROXIDE (HYDRATED LIME)	CALCIUM HYDROXIDE (HYDRATED LIME) ADDITIVE DRILLING FLUID; DRY, FREE FLOWING FINE POWDER FORM, CALCIUM HYDROXIDE, Ca(OH)2, FOR TO CONTROL PH, BICARBONATE, AND H2S CONTAMINATION. LIME IS ALSO A PRIMARY COMPONENT OF INVERT EMULSION MUDS, CALCIUM HYDROXIDE (HYDRATED LIME), 25 KG (55.1 LBS.) MULTI-WALLED PAPER BAG WITH INNER POLYETHYLENE SEALED LINER. SHIPMENT OF PRODUCTS MUST CONFORM TO SAUDI ARAMCO EXPORT PACKING MANUAL., CALCIUM HYDROXIDE Ca(OH)2 HYDRATED LIME - TECHNICAL GRADE USED TO INCREASE PH AND TO PROVIDE CALCIUM IONS IN DRILLING AND COMPLETION FLUIDS TO MAINTAIN A BASIC PH. IT IS AN ESSENTIAL ADDITIVE AS A MEANS OF ADJUSTING THE ALKALINITY WHEN BICARBONATE/CARBONATE AND H2S CONTAMINATIONS EXIST IN ADDITION, LIME IS USED FOR MAINTAINING THE ALKALINITY OF OIL-BASED DRILLING FLUIDS TO ACTIVATE THE FATTY ACID BASED EMULSIFIERS AND OFFERS A DEGREE OF CORROSION PROTECTION. CHEMICAL AND PHYSICAL SPECIFICATIONS WHITE POWDER CALCIUM HYDROXIDE Ca(OH)2: 90% WT. MINIMUM MOISTURE: 1% WT. MAXIMUM PH: 12 MINIMUM - SATURATED SOLUTION IN DI WATER AT 68°F (20°C) SPECIFIC GRAVITY AT 68°F (20°C): 2.2 - 2.4 INSOLUBLE IMPURITIES IN 15% HYDROCHLORIC ACID: 0.2% WT. MAXIMUM MAGNESIUM AND ALKALI SALTS: 2.5% WT. MAXIMUM IRON CONTENT: 0. WT. MAXIMUM PASS THROUGH 75 #M SIEVE (DRY SCREEN): 100%. 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. (AS APPLICABLE, SAFETY DATA SHEET SHOULD BE SUBMITTED WITH PO OFFER AND DURING MATERIAL DELIVERY). PALLET, PLASTIC TYPE, HEAVY-DUTY SIZE (W X L X H), 120 X 120 X 15 CM, DOUBLE-DECK, 4-WAY ENTRY, RACKABLE/STACKABLE, ANTI-SLIP, CHEMICAL AND WEATHER RESISTANT, HYGIENIC AND RECYCLABLE AND SHALL BE CERTIFIED (BY A SAUDI ARAMCO RECOGNIZED INDEPENDENT MATERIALS TESTING AGENCY) FOR MINIMUM STATIC LOAD CAPACITY AS PER ISO 8611, MS 8314-05 PALLET PACKING SPECIFICATION.

1000021930 XANTHAN GUM BIO-POLYMER

XANTHAN GUM BIO-POLYMER ADDITIVE DRILLING FLUID; DRY FREE FLOWING POWDER FORM, PURE XANTHAN GUM BIO-POLYMER, FOR IT IS USED AS A RHEOLOGY CONTROL AND SUSPENSION AGENT IN FRESH WATER, SEA WATER, AND SATURATED BRINE-BASED DRILLING, COMPLETION AND WORKOVER FLUIDS. PURE XANTHAN GUM BIO-POLYMER, 25 KG (55.1 LBS.) MULTI-WALL PAPER BAG, VALVE/SPOUT TYPE COMPLETELY SEALED, MOISTURE AND WATER PROOF. THE CONSTRUCTION OF THE MULTI-WALLED PAPER BAG SHALL BE AS FOLLOWS: 1ST PLY 50 LB. NATURAL KRAFT PAPER (INTERIOR PLY) 2ND PLY 50 LB. NATURAL KRAFT PAPER 3RD PLY SEPARATE INNER BAG LINER, HIGH DENSITY ORIENTED AND CROSS-LAMINATED INNER POLY-ETHYLENE RESIN LINER (TUBULAR SHAPE) WITH A MINIMUM WALL THICKNESS OF 0.1 MM. 4TH PLY 50 LB. NATURAL KRAFT PAPER. 5TH PLY 60 LB. NATURAL KRAFT PAPER. WET STRENGTH (EXTERIOR PLY) SHIPMENT OF PRODUCT SHALL CONFORM TO SAUDI ARAMCO EXPORT PACKING MANUAL, API SPECIFICATION 13A 18TH EDITION, AUGUST 2010, ERRATA 1, AUGUST 2014, XANTHAN GUM BIO-POLYMER: DRILLING GRADE PURE, DRY FREE FLOWING FINE POWDER OF ANIONIC POLYSACCHARIDE READILY SOLUBLE IN WATER OR BRINE. THE BIO-POLYMER IS PRODUCED BY A DISTINCT FERMENTATION PROCESS OF XANTHOMONAS CAMPESTRIS. THE PRODUCT SHALL NOT CONTAIN ANY OTHER POLYSACCHARIDE, SUCH AS STARCH, GUAR GUM OR OTHER NATURALLY OCCURRING POLYMERS OR THEIR DERIVATIVES. IT IS USED AS A RHEOLOGY CONTROL AND SUSPENSION AGENT IN FRESH WATER, SEA WATER, AND SATURATED BRINE-BASED DRILLING, COMPLETION AND WORKOVER FLUIDS. XANTHAN GUM 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. CHEMICAL AND PHYSICAL SPECIFICATIONS: OFF-WHITE, FREE-FLOWING GRANULAR POWDER. SCREEN ANALYSIS: LESS THAN 425 (PASS THROUGH 40 US MESH SCREEN) - 95% MINIMUM LESS THAN 75 MM (PASS THROUGH 200 US MESH SCREEN) ÷ 50% MAXIMUM QUALITATIVE LAB TESTS WILL BE PERFORMED TO DETECT THE PRESENCE OF: STARCH, GUAR, OR THEIR DERIVATIVES: ABSENT CELLULASE ENZYMES: NEGATIVE SULFATE REDUCING BACTERIA: NEGATIVE CELLULOLYTIC BACTERIA: NEGATIVE MOISTURE CONTENT 10% MAXIMUM NO INGREDIENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% WT. TO BE IDENTIFIED AS PROBABLE, POSSIBLE OR CONFIRMED HUMAN CARCINOGEN PERFORMANCE REQUIREMENTS LOW XANTHAN GUM CONCENTRATION DEVELOPS PSEUDOPLASTIC FLUID BEHAVIOR (HIGH VISCOSITY UNDER LOW SHEAR AND LOW VISCOSITY UNDER HIGH SHEAR) TEMPERATURE STABILITY: STABLE UP TO 250°F (121°C). XANTHAN GUM (1.5 LB/BBL) IN SALT SATURATED SOLUTION WITH PH-10 AND PURGE THE CELL WITH N2 BEFORE HOT ROLLING FOR 24 HOURS AT 250°F. AFTER HOT ROLLING THE YIELD POINT SHOULD BE: 16 LB/100 FT<sup>2</sup> MINIMUM XANTHAN GUM 1LB/BBL IN DISTILLED WATER FANN-35 EQUIPPED WITH 0.2 TORSION SPRING, R1/B1 CONFIGURATION 300 RPM: 55 MINIMUM X 0.2 = 11CP 6 RPM: 18 MINIMUM X 10 = 180 CPM 3 RPM: 16 MINIMUM X 20 = 320 CP BROOKFIELD VISCOSITY RPM10: SPINDLE 34 @ 77°F (25°C) 1.5 RPM: 1950 CP MINIMUM TOTAL VIABLE BACTERIA COUNT: LESS THAN 50,000/GRAM THE TEST IS CONDUCTED ON A XANTHAN GUM SUSPENSION PREPARED AS FOLLOWS: A. XANTHAN GUM DRY POWDER: 0.1 GRAM TRANSFERRED ASEPTICALLY FROM THE MANUFACTURER'S PRODUCT CONTAINER DIRECTLY TO 10 ML OF STERILE PHOSPHATE-BUFFERED SALINE B. THE POWDER IS DISPERSED BY PLACING THE SUSPENSION IN AN ULTRASONIC BATH FOR 30 SECONDS, ALLOWING THE SUSPENSION TO REHYDRATE FOR 15 MINUTES AND THEN REPEATING THE SONICATION PROCEDURE. C. 0.1 ML OF THE SONICATED SUSPENSION 1/10 DILUTION OF THE SONICATED SUSPENSION ARE SPREAD-PLATED ONTO THE SURFACE OF AN R2A AGAR PLATE. THE PLATE IS INCUBATED AT 37°C 48 HOURS. ALL COLONIES APPEARING ON THE PLATE

1000022135 HIGH TEMPERATURE CORROSION INHIBITOR

HIGH TEMPERATURE CORROSION INHIBITOR ADDITIVE DRILLING FLUID; LIQUID FORM, CORROSION INHIBITOR FOR HIGH TEMPERATURE, FOR ALLEVIATE FRESH, BRACKISH OR BRINE PACKER FLUIDS CORROSION, LIQUID AMINES AND AMIDE, 55 GAL (208 LITER) DRUM SHIPMENT OF PRODUCT SHALL CONFORM TO SAUDI ARAMCO EXPORT PACKING MANUAL. HIGH TEMPERATURE CORROSION INHIBITOR: A BLEND OF AMINES AND IMIDAZOLINE AMIDE, SOLUBLE IN OIL AN DISPERSIBLE IN WATER USE TO ALLEVIATE CORROSION I FRESH, BRACKISH OR BRINE PACKER FLUID AT HIGH WELLBORE TEMPERATURES UP TO 400°F. IMIDAZOLINE ADSORPTION FORMS A CHEMICAL FILM ON IRON AN STEEL SURFACES AND DEVELOPS A PASSIVATION LAYER THAT PROVIDES CORROSION PROTECTION IN SOUR H<sub>2</sub>S, SWEET CO<sub>2</sub> AND OXYGEN CORROSION ENVIRONMENT ENCOUNTERED OIL AND GAS WELLS. CHEMICAL AND PHYSICAL SPECIFICATIONS: DARK AMB LIQUID OIL SOLUBLE AND WATER DISPERSIBLE SPECIFIC GRAVITY @ 59°F (15°C): 0 - 0.9 FLASH POINT (PMCC) >136°F (58°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 (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. (AS APPLICABLE, SAFETY DATA SHEET SHOULD BE SUBMITTED WITH PO OFFER AND DURING MATERIAL DELIVERY). PALLET, PLASTIC TYPE, HEAVY-DUTY SIZE (W X L X H), 120 X 120 X 15 CM, DOUBLE-DECK, 4-WAY ENTRY, RACKABLE/STACKABLE, ANTI-SLIP, CHEMICAL AND WEATHER RESISTANT, HYGIENIC AND RECYCLABLE AND SHALL BE CERTIFIED (BY A SAUDI ARAMCO RECOGNIZED INDEPENDENT MATERIALS TESTING AGENCY) FOR MINIMUM STATIC LOAD CAPACITY AS PER ISO 8611, MS 8314-05 PALLET PACKING SPECIFICATION.

1000022136	CORROSION INHIBITOR-MICROBIOSTAT	<p>CORROSION INHIBITOR-MICROBIOSTAT ADDITIVE DRILLING FLUID; LIQUID FORM,CORROSION INHIBITOR AND BIOCID, FOR USED AS A PACKER FLUID CORROSION INHIBITOR, LIQUID AMINE WITH METHANOL MICROBIOSTAT, 55 GAL (208 LITER) DRUM SHIPMENT OF PRODUCT SHALL CONFORM TO SAUDI ARAMCO EXPORT PACKING MANUAL., CORROSION INHIBITOR-MICROBIOSTAT: COMBINED LIQUID BIOCID AND CORROSION INHIBITOR, CATIONIC, WATER SOLUBLE, HETEROCYCLIC AMINE BLEND WITH METHANOL MICROBIOSTAT TO CONTROL AEROBIC AND ANAEROBIC BACTERIA GROWTH IT IS USED AS A PACKER FLUID CORROSION INHIBITOR TO CONTROL GENERAL CORROSION ATTACK ON CASING, TUBING AND DOWNHOLE TOOLS IN CONTACT WITH CLEAR AND VISCOSIFI COMPLETION BRINES. CHEMICAL AND PHYSICAL SPECIFICATIONS: LIGHT (O PALE) COLORED LIQUID WATER SOLUBLE SPECIFIC GRAVITY 68°F (20°C): 0.98 -1.07. 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. (AS APPLICABLE, SAFETY DATA SHEET SHOULD BE SUBMITTED WITH PO OFFER AND DURING MATERIAL DELIVERY). PALLET, PLASTIC TYPE, HEAVY-DUTY SIZE (W X L X H), 120 X 120 X 15 CM, DOUBLE-DECK, 4- WAY ENTRY, RACKABLE/STACKABLE, ANTI-SLIP, CHEMICAL AND WEATHER RESISTANT, HYGIENIC AND RECYCLABLE AND SHALL BE CERTIFIED (BY A SAUDI ARAMCO RECOGNIZED INDEPENDENT MATERIALS TESTING AGENCY) FOR MINIMUM STATIC LOAD CAPACITY AS PER ISO 8611, MS 8314-05 PALLET PACKING SPECIFICATION.</p>
1000022533	CALCIUM CHLORIDE(77-78%) 1000 KG BIG BAG	<p>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 WEIGH 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 11MM 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 ÷ 10.5. 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. (AS APPLICABLE, SAFETY DATA SHEET SHOULD BE SUBMITTED WITH PO OFFER AND DURING MATERIAL DELIVERY)</p>

1000022536	CALCIUM CHLORIDE (94-98%) 50 KG BAG	CALCIUM CHLORIDE (94-98%) 50 KG/BAG ADDITIVE DRILLING FLUID; DRY FLAKES, PELLETS, OR GRANULAR FORM, WATER-SOLUBLE USED AS WEIGHTING AGENT FOR FORMULATING 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 94-98%, 50 KG (110 LBS) MULTI-WALLED PAPER BAG, VALVE/SPOUT TYPE, COMPLETELY SEALED, MOISTURE AND WATER PROOF. THE CONSTRUCTION OF THE MULTI-WALLED PAPER BAG SHALL BE AS FOLLOWS: 1ST PLY 50 LB MIN. NATURAL KRAFT PAPER (INTERIOR PLY) 2ND PLY 50 LB MIN. NATURAL KRAFT PAPER 3RD PLY SEPARATE INNER BAG LINER HIGH DENSITY ORIENTED AND CROSS-LAMINATED INNER ETHYLENE RESIN LINER (TUBULAR SHAPE) WITH A MINIMUM WALL THICKNESS OF 0.1 MM. 4TH PLY 50 LB MIN. NATURAL KRAFT PAPER 5TH PLY 60 LB MIN. NATURAL KRAFT PAPER WET STRENGTH (EXTERIOR PLY). SHIPMENT OF PRODUCT SHALL CONFORM TO SAUDI ARAMCO EXPORT PACKING MANUAL. ASTM D98-68/PRACTICE E29/ASTM D345 - 02 (2010) STANDARD TEST METHOD FOR CaCl <sub>2</sub> SAMPLING AND TESTING, CHEMICAL AND PHYSICAL SPECIFICATIONS APPEARANCE DRY FREE FLOWING WHITE FLAKES OR PELLETS PURITY CaCl <sub>2</sub> 94 %WT. MINIMUM PASS THROUGH 4 US MESH SCREEN: 100%WT. NO PARTICLES GREATER THAN 4.5MM IN AN DIMENSION ALKALI CHLORIDE AS NaCl: 5.0%WT. MAXIMUM - AS MgCl <sub>2</sub> : 0.5%WT. MAXIMUM. HEAVY METALS AS Pb: 0.005%WT. MAXIMUM. SULFATE AS CaSO <sub>4</sub> : 0.05%W MAXIMUM FE: 15 PPM MAXIMUM WATER INSOLUBLES: 0.20%W MAXIMUM. REMAINING COMPONENT IS WATER OF CRYSTALLIZATION PH: 10% SOLUTION: 7.5 - 10.5 SATURATED SOLUTION: CLEAR COLORLESS. 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. (AS APPLICABLE, SAFETY DATA SHEET SHOULD BE SUBMITTED WITH PO OFFER AND DURING MATERIAL DELIVERY). PALLET, PLASTIC TYPE, HEAVY-DUTY SIZE (W X L X H), 120 X 120 X 15 CM, DOUBLE-DECK, 4-WAY ENTRY, RACKABLE/STACKABLE, ANTI-SLIP, CHEMICAL AND WEATHER RESISTANT, HYGIENIC AND RECYCLABLE AND SHALL BE CERTIFIED (BY A SAUDI ARAMCO RECOGNIZED INDEPENDENT MATERIALS TESTING AGENCY) FOR MINIMUM STATIC LOAD CAPACITY AS PER ISO 8611, MS 8314-05 PALLET PACKING SPECIFICATION.
1000032699	TBG 2-3/8" 4.7# L-80.1 CS HYDRIL R-2	TUBING: 2-3/8 IN. 4.7 LB/FT, L-80, HYDRIL CS, R-2; . TUBING OCTG; STEEL, SEAMLESS, 45-SAMSS-006, API 5CT ,API-5B API, GR L-80.1, SIZE 2-3/8 IN OD, 4.70 LB/FT WT, HYDRIL CS OR EQUIVALENT END CONN, RANGE 2 LG, BLUE BAND 1, GREEN BAND 2, PIPE I.D 1.995 IN, DRIFT 1.901 IN, THREAD PER INCH 8 TPI, MAKE-UP LOSS 2.31 IN, PIPE BODY STRENGTH 104 KLBS, JOINT STRENGTH 104 KLBS, BURST PRESSURE 11,200 PSI, COLLAPSE PRESSURE 11,780 PSI, FIELD END MAKE-UP TORQUE (MIN 1,500, OPTI 1,700, MAX 1,900) FT-LBS. SAUDI ARAMCO COLOR CODE. A 2 IN WD BLUE BAND 1 IN FROM BOX UPSET EXTREME & A 2 IN WD GREEN BAND 9 IN FROM BOX UPSET EXTREME. UPDATED ON: FEB.16
1000032750	TBG 2-7/8" 8.7# L-80.1 PH-6 R-2	TUBING: 2-7/8 IN. 8.70 LB/FT, L-80, HYDRIL PH-6, R-2; . TUBING OCTG; STEEL, SEAMLESS, 45-SAMSS-006, API 5CT API-5B, GR L-80.1, SIZE 2-7/8 IN OD, 8.70 LB/FT WT, HYDRIL PH-6 OR EQUIVALENT END CONN, RANGE 2 LG, BLUE BAND 1, GREEN BAND 2, PIPE I.D 2.259 IN, DRIFT 2.165 IN, THREAD PER INCH 6 TPI, MAKE-UP LOSS 3.04 IN, PIPE BODY STRENGTH 199 KLBS, JOINT STRENGTH 199 KLBS, BURST PRESSURE 15,000 PSI, COLLAPSE PRESSURE 15,310 PSI, FIELD END MAKE-UP TORQUE (MIN 3,000, OPTI 3,400, MAX 3,800) FT-LBS. SAUDI ARAMCO COLOR CODE. A 2 IN WD BLUE BAND 1 IN FROM BOX UPSET EXTREME & A 2 IN WD GREEN BAND 9 IN FROM BOX UPSET EXTREME. UPDATED ON: FEB.16
1000757581	H2S SCAVENGER-ZINC-FREE IRON GLUCONATE	H2S SCAVENGER-ZINC-FREE IRON GLUCONATE ADMIXTURE DRILLING MUD; POWDER FORM, IRON GLUCONATE, FOR SCAVENGES HYDROGEN SULFIDE FROM DRILLING FLUIDS, IRON GLUCONATE, 25 KG (55.1 LBS.) PAIL OR SEALED BAG, VALVE/SPOUT TYPE, COMPLETELY SEALED, MOISTURE AND WATERPROOF. THE CONSTRUCTION OF THE MULTI-WALLED PAPER BAG (CONTAINER) SHALL BE AS FOLLOWS: 1ST PLY 75 LB. MIN. NATURAL KRAFT PAPER (INTERIOR PLY) 2ND PLY 75 LB. MIN. NATURAL KRAFT PAPER 3RD PLY SEPARATE INNER BAG LINER, HIGH DENSITY ORIENTED AND CROSS-LAMINATED INNER POLYETHYLENE RESIN LINER (TUBULAR SHAPE) WITH A MINIMUM WALL THICKNESS OF 0.1 MM. 4TH PLY 80 LB. MIN. NATURAL KRAFT PAPER (EXTERIOR PLY). SHIPMENT OF PRODUCT SHALL CONFORM TO SAUDI ARAMCO EXPORT PACKING MANUAL. H2S SCAVENGER-ZINC-FREE IRON GLUCONATE: A HIGHLY WATER SOLUBLE GRANULAR POWDER OF IRON GLUCONATE WITH NO HAZARDOUS SUBSTANCES AND USED TO SCAVENGE HYDROGEN SULFIDE FROM WATER-BASED AND OIL-BASED DRILLING FLUID CHEMICAL AND PHYSICAL SPECIFICATIONS: PURITY (IRON GLUCONATE): >90%WT APPEARANCE: LIGHT YELLOW-GREEN GRANULAR POWDER PH (1% DI WATER SOLUTION): 4-5.5 SOLUBILITY: 100% SOLUBLE IN WATER ONE LB./BBL. OF PRODUCT REMOVES APPROXIMATELY 150-220 MG/LITER SULFIDES BULK DENSITY: 650-850 KG/M <sup>3</sup> @ 68°F (20°C). SAUDI ARAMCO RESERVES THE RIGHT TO COLLECT REPRESENTATIVE PRODUCT SAMPLES AND CONDUCT LABORATORY TESTS TO ENSURE COMPLIANCE WITH THE MATERIAL DESCRIPTION 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 SHE (MSDS). UOM REFERRED IN THIS MATERIAL IS NET VOLUME/WEIGHT. (AS APPLICABLE, SAFETY DATA SHEET SHOULD BE SUBMITTED WITH PO OFFER AND DURING MATERIAL DELIVERY). PALLET, PLASTIC TYPE, HEAVY-DUTY SIZE (W X L X H), 120 X 120 X 15 CM, DOUBLE-DECK, 4-WAY ENTRY, RACKABLE/STACKABLE, ANTI-SLIP, CHEMICAL AND WEATHER RESISTANT, HYGIENIC AND RECYCLABLE AND SHALL BE CERTIFIED (BY A SAUDI ARAMCO RECOGNIZED INDEPENDENT MATERIALS TESTING AGENCY) FOR MINIMUM STATIC LOAD CAPACITY AS PER ISO 8611, MS 8314-05 PALLET PACKING SPECIFICATION.

1000811877	MICRO-WASH FORMIC ACID-BAKER HUGHES	<p>MICRO-WASH FORMIC ACID-BAKER HUGHES ADDITIVE DRILLING FLUID; CLEAR, COLORLESS LIQUID FORM,FORMIC ACID ADDITIVE,FOR USED FOR FORMULATING MICRO-WASH,FORMIC ACID &gt;90%,55 GAL. (208 LITER) DRUM SHIPMENT OF PRODUCTS MUST CONFORM TO SAUDI ARAMCO EXPORT PACKING MANUAL,MICRO-WASH FORMIC ACID-BAKER HUGHES: CLEAR LIQUID FORMIC ACID ADDITIVE FOR FORMULATING MICRO-WASH. [BAKER HUGHES MICRO-WASH ACID SYSTEM CONSISTS OF: PRIME-743 (SAP #1000811425), PRIME-760 (SAP #1000811426), PRIME-770 (SAP #1000811427), OHR-7 (SAP #1000811421), OHR-A (SAP #1000811422), OHR-7 (SAP #1000811423), OHR-7 (SAP #1000811424), GLACI ACETIC ACID (SAP #1000814796), AND FORMIC ACID (SAP #1000811877)]. CHEMICAL AND PHYSICAL SPECIFICATIONS: APPEARANCE: CLEAR COLORLESS LIQUID FORMIC ACID: &gt;90%. SAUDI ARAMCO RESERVES THE RIGHT TO COLLECT REPRESENTATIVE PRODUCT SAMPLES AND CONDUCT LABORATORY TESTS TO ENSURE COMPLIANCE WIT 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 SHE (MSDS). "UOM REFERRED IN THIS MATERIAL IS NET VOLUME/WEIGHT" (AS APPLICABLE, SAFETY DATA SHEET SHOULD BE SUBMITTED WITH PO OFFER AND DURING MATERIAL DELIVERY). PALLET, PLASTIC TYPE, HEAVY-DUTY SIZE (W X L X H), 120 X 120 X 15 CM, DOUBLE-DECK, 4- WAY ENTRY, RACKABLE/STACKABLE, ANTI-SLIP, CHEMICAL AND WEATHER RESISTANT, HYGIENIC AND RECYCLABLE AND SHALL BE CERTIFIED (BY A SAUDI ARAMCO RECOGNIZED INDEPENDENT MATERIALS TESTING AGENCY) FOR MINIMUM STATIC LOAD CAPACITY AS PER ISO 8611, MS 8314-05 PALLET PACKING SPECIFICATION.</p>
1000814796	MICRO WASH-GLACIAL ACETIC ACID-BAKER	<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 HANLDE 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 CALCIU CARBONATE PARTICLES, AFT USING OBM, IN WELLBORE REMEDIATION AND CLEANUP PROCESS TO IMPROVE WELL PRODUCTIVITY. BAKER HUGH MICRO-WASH ACID SYSTEM CONSISTS OF: PRIME-743 (SAP #1000811425), PRIME-760 (SAP #1000811426), PRIME-770 (SAP #1000811427), OHR-7 (SAP #1000811421), OHR-A (SAP #1000811422), OHR-7 (SAP #1000811423), OHR-7 (SAP #1000811424), GLACI ACETIC ACID (SAP #1000814796), AND FORMIC ACID (SAP #1000811877). CHEMICAL AND PHYSICAL SPECIFICATIONS: APPEARANCE: CLEAR LIQUID STRONG PUNGENT VINEGAR ODOR ACETIC ACID: &gt;96% DENSITY: 1040-1050 KG/M   (1.040-1.050 G/CM   ) AT 25 C BOILING POINT: 242. F (117 C) MINIMUM FLAS POINT: &gt;39 C/102 F (CLOSED CUP) AUTO-IGNITI TEMPERATURE: 799 C. SAUD ARAMCO RESERVES THE RIGH TO COLLECT REPRESENTATIV PRODUCT SAMPLES AND CONDUCT LABORATORY TESTS TO ENSURE COMPLIANCE WIT 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 SHE (MSDS). UOM REFERRED IN THIS MATERIAL IS NET VOLUME/WEIGHT. (AS APPLICABLE, SAFETY DATA SHEET SHOULD BE SUBMITTED WITH PO OFFER AND DURING MATERIAL DELIVERY)</p>
1000823699	THINNER/DISPERSANT-OBM CONDITIONER	<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-B MUD CONDITIONER: LIQUID POLYOLEFIN/ORGANIC SULFONATE BLEND WITH FAT 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. CHEMIC 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 ARAM RESERVES THE RIGHT TO COLLECT REPRESENTATIVE PRODUCT SAMPLES AND CONDUCT LABORATORY TESTS TO ENSURE COMPLIANCE WIT THE MATERIAL DESCRIPTION AND SPECIFICATIONS. PRODUCT MANUFACTURER AND OR SUPPLIER ARE REQUIRED TO SUBMIT LAB CERTIFICAT 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 NAM AND CONTACT INFORMATION. HAZCOM ACCORDING TO THE MATERIAL SAFETY DATA SHE (MSDS).UOM REFERRED IN THIS MATERIAL IS NET VOLUME/WEIGHT (AS APPLICABLE, SAFETY DATA SHEET SHOULD BE SUBMITTED WITH PO OFFER AND DURING MATERIAL DELIVERY). PALLET, PLASTIC TYPE, HEAVY-DUTY SIZE (W X L X H), 120 X 120 X 15 CM, DOUBLE-DECK, 4- WAY ENTRY, RACKABLE/STACKABLE, ANTI-SLIP, CHEMICAL AND WEATHER RESISTANT, HYGIENIC AND RECYCLABLE AND SHALL BE CERTIFIED (BY A SAUDI ARAMCO RECOGNIZED INDEPENDENT MATERIALS TESTING AGENCY) FOR MINIMUM STATIC LOAD CAPACITY AS PER ISO 8611, MS 8314-05 PALLET PACKING SPECIFICATION.</p>

1000843350	OIL SOLUBLE H2S SCAVENGER	<p>OIL SOLUBLE ZINC-BASED H2S LIQUID SCAVENGER ADDITIVE DRILLING FLUID; LIQUID H2S SCAVENGER FORM,BLEND OF ZINC ORGANOMETALLICS,FOR LIQUID FORM FOR A HYDROCARB TO NEUTRALIZE HYDROGEN SULF LIMITED TO ZERO FLARING/FLO TRANSPORTATION/SHIPMENTS AN,ZINC COMPOUND,55 GAL DRUM (208 L), NET VOLUM,APPEARANCE/ODOR: VISCOUS YELLOW TO YELLOW-GREEN LIQUID/MILD ODOR. SPECIF GRAVITY AT 77F (25 DEG): 0.8-1.10 FLASH POINT (PMCC) : &gt;149 (65 DEG) SOLUBILITY: INSOLUBLE IN WATER ACTIVE INGREDIENT: ZINC BASED CHELATE CONCENTRATION OF THE ACTIVE INGREDIENT DETERMINED BY GRAVIMETRI METHOD: MINIMUM 70 PERCENTAGE W/W. SAUDI ARAMCO RESERVES THE RIGH TO COLLECT REPRESENTATIV PRODUCT SAMPLES AND CONDUCT LABORATORY TESTS TO ENSURE COMPLIANCE WIT THE MATERIAL DESCRIPTION AND SPECIFICATIONS. PRODUCT MANUFACTURER AND OR SUPPLIER ARE REQUIRED TO SUBMIT LAB CERTIFICAT OF ANALYSIS FOR EVERY BATCH (COA) AND CERTIFICATE OF ORIGIN (COO). PRODUCT MANUFACTURER AND/OR SUPPLIER ARE REQUIRED TO SUBMIT LAB CERTIFICATE O ANALYSIS (COA) AND CERTIFICATE OF ORIGIN (COO) FOR EVERY BATCH. U REFERRED IN THIS MATERIA IS NET VOLUME/WEIGHT. LABEL: PRODUCT NAME, BAT NUMBER, PRODUCTION DATE, SAP NUMBER, EXPIRATION DATE, AND COUNTRY OF ORIGIN, MANUFACTURER NAM AND CONTACT INFORMATION. HAZCOM ACCORDING TO THE MATERIAL SAFETY DATA SHE MSDS. (AS APPLICABLE, SAFETY DATA SHEET SHOULD BE SUBMITTED WITH PO OFFER AND DURING MATERIAL DELIVERY). PALLET, PLASTIC TYPE, HEAVY-DUTY SIZE (W X L X H), 120 X 120 X 15 CM, DOUBLE-DECK, 4- WAY ENTRY, RACKABLE/STACKABLE, ANTI-SLIP, CHEMICAL AND WEATHER RESISTANT, HYGIENIC AND RECYCLABLE AND SHALL BE CERTIFIED (BY A SAUDI ARAMCO RECOGNIZED INDEPENDENT MATERIALS TESTING AGENCY) FOR MINIMUM STATIC LOAD CAPACITY AS PER ISO 8611, MS 8314-05 PALLET PACKING SPECIFICATION.</p>
1001071292	ADDITIVE DRILLING FLUID, LIQUID NON-EMUL	<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 LIQUI SPECIFIC GRAVITY AT 68 DEG.F (20 DEG. C): 0.85-0.95. FLASH POINT: &gt;86 DEG. F (30 DEG. C). NON-DEGRADABLE IN 15% HC 5 GAL PAIL(18.9 LITERS), NET PRODUCT VOLUME OF 5 GAL. SAUDI ARAMCO RESERV THE RIGHT TO COLLECT REPRESENTATIVE PRODUCT SAMPLES AND CONDUCT LABORATORY TESTS TO ENSU COMPLIANCE WITH THE MATERIAL DESCRIPTION AND SPECIFICATIONS. PRODUCT MANUFACTURER AND OR SUPPLIER ARE REQUIRED TO SUBMIT LAB CERTIFICATE O ANALYSIS FOR EVERY BATCH (COA) AND CERTIFICATE OF ORIGIN (COO). PRODUCT MANUFACTURER AND/OR SUPPLIER ARE REQUIRED TO SUBMIT LAB CERTIFICATE O ANALYSIS (COA) AND CERTIFICATE OF ORIGIN (COO) FOR EVERY BATCH. U REFERRED IN THIS MATERIA IS NET VOLUME/WEIGHT.LABEL: PRODUCT NAME, BATCH NUMBER, PRODUCTION DATE, SAP NUMBER, EXPIRATION DATE, AND COUNTRY OF ORIGIN, MANUFACTURER NAM AND CONTACT INFORMATION. HAZCOM ACCORDING TO THE MATERIAL SAFETY DATA SHE MSDS. UOM REFERRED IN TH MATERIAL IS NET VOLUME/WEIGHT. (AS APPLICABLE, SAFETY DATA SHEET SHOULD BE SUBMITTED WITH PO OFFER AND DURING MATERIAL DELIVERY). PALLET, PLASTIC TYPE, HEAVY-DUTY SIZE (W X L X H), 120 X 120 X 15 CM, DOUBLE-DECK, 4- WAY ENTRY, RACKABLE/STACKABLE, ANTI-SLIP, CHEMICAL AND WEATHER RESISTANT, HYGIENIC AND RECYCLABLE AND SHALL BE CERTIFIED (BY A SAUDI ARAMCO RECOGNIZED INDEPENDENT MATERIALS TESTING AGENCY) FOR MINIMUM STATIC LOAD CAPACITY AS PER ISO 8611, MS 8314-05 PALLET PACKING SPECIFICATION.</p>
1001078250	ADDITIVE DRILLING FLUID, SINGLE SALT (CA	<p>CALCIUM BROMIDE (CABR2) SOLUTION ADDITIVE DRILLING FLUID; SINGLE SALT (CABR2), SOLIDS-FREE BRINE FORM,CALCIUM BROMIDE (CABR2),FOR A PURE SOLIDS-FREE BRINE USED IN COMPLETION FLUIDS AND CAN BE BLENDED WITH ZINC/CALCIUM BROMIDE AND CALCIUM CHLORIDE SOLUTIONS TO FORMULATE NON-DAMAGING FLUIDS OF DENSITIES UP 143 PCF (19.1 LB/GAL),CALCIUM BROMIDE,275 GALON (IBC) NET VOLUME,REFER TO API 13J FIFTH EDIT OCTOBER 2014,CALCIUM BROMIDE SOLUTION (CABR2): PURE, SOLIDS-FR BRINE USED FOR PREPARING COMPLETION FLUIDS AS A SINGLE CABR2 SALT SOLUTI WITH MINIMUM DENSITY OF 1.70 GM/CC, AND CAN BE BLENDED WITH ZINC BROMID AND CALCIUM CHLORIDE SOLUTIONS TO FORMULATE, SOLIDS-FREE NON-DAMAGING HIGH DENSITY BRINE BLEND WITH DENSITIES UP TO 143 PCF (19.1 LB/GAL). CHEMICAL AND PHYSICAL SPECIFICATIONS: CALCIUM BROMIDE (CABR2) SOLUTION 52% WT. MINIMUM COLORLES CLEAR LIQUID WITH NO ODO CHLORIDE CONTENT: 1000 P (0.1% WT.) MAXIMUM TURBIDITY: 6 NTU MAXIMUM SULPHATE CONTENT: 100 PP (0.01% WT.) MAXIMUM IRON CONTENT: 5 PPM MAXIMUM TOTAL HEAVY METALS (ZN, PB, HG, AS AND CD): 5 PP MAXIMUM DENSITY: 1.70 GM/CC (14.2 LB/GAL / 106 PCF) AT 70°F (20.1°C) MINIMUM PH OF 10% SOLUTI IN DI WATER: [BASIC.] 7- 8.5 TRUE CRYSTALLIZATION TEMPERATURE (TCT): 10°F (-12.2°C) SOLIDS RETAINE ON 5 MICRONS FILTER PAPE NONE SAUDI ARAMCO RESERV THE RIGHT TO COLLECT THE RIGHT TO COLLECT REPRESENTATIVE PRODUCT SAMPLES AND CONDUCT LABORATORY TESTS TO ENSU COMPLIANCE WITH THE MATERIAL DESCRIPTION AND SPECIFICATIONS. PRODUCT MANUFACTURER AND OR SUPPLIER ARE REQUIRED TO SUBMIT LAB CERTIFICATE O ANALYSIS FOR EVERY BATCH (COA) AND CERTIFICATE OF ORIGIN (COO). LABEL:PRODUCT NAME, BATC NUMBER, PRODUCTION DATE, SAP NUMBER, EXPIRATION DATE, AND COUNTRY OF ORIGIN, MANUFACTURER NAM AND CONTACT INFORMATION. HAZCOM ACCORDING TO THE MATERIAL SAFETY DATA SHE (MSDS) (AS APPLICABLE, SAFETY DATA SHEET SHOULD BE SUBMITTED WITH PO OFFER AND DURING MATERIAL DELIVERY)</p>

1001129231	ADDITIVE DRILLING FLUID, WHITE FREE FLOW	CALCIUM BROMIDE(CABR2) DRY 95% ADDITIVE DRILLING FLUID; WHITE FREE FLOWING POWDER, CRYSTALLINE OR GRANULAR FORM, CALCIUM BROMIDE (CABR2) DRY 95%, FOR WHITE FREE FLOWING POWDER, CRYSTALLINE OR GRANULAR WITH NO LUMPS, CALCIUM BROMIDE SALT USED FOR PREPARING COMPLETION FLUIDS AS A SINGLE CABR2 SALT SOLUTION WITH MINIMUM DENSITY OF 1.70 GM/CC, AND CAN BE BLENDED WITH ZINC BROMIDE AND CALCIUM CHLORIDE SOLUT, CALCIUM BROMIDE (CABR2) DRY 95%, 25 KG (55.1 LB) BAG (NET WEIGHT), WHITE FREE FLOWING POWDER CRYSTALLINE OR GRANULAR WITH NO LUMPS, CALCIUM BROMIDE SALT USED FOR PREPARING COMPLETION FLUIDS AS A SINGLE CABR2 SALT SOLUTION WITH MINIMUM DENSITY OF 1.70 GM/CC, A CAN BE BLENDED WITH ZINC BROMIDE AND CALCIUM CHLORIDE SOLUTIONS TO FORMULATE, SOLIDS-FREE NON-DAMAGING HIGH-DENSITY BRINE BLENDS WITH DENSITIES UP TO 143 PCF (19.1 LB/GAL). APPEARANCE: WHITE FREE FLOWING POWDER CRYSTALLINE OR GRANULAR, NO LUMPS SATURATED BRINE SOLUTION: CLEAR COLORLES PURITY AS CABR2, PERCENT 95 MINIMUM SG AT 77 DEG (25 DEG C): 3.2 - 3.4 SOLUBILITY IN WATER AT 6 DEG F (20 DEG C), WT PERCENT 58 MINIMUM IRON, PPM: 10 MAXIMUM CHLORIDE AS CaCl2, WT PERCENT 1.5 MAXIMUM SULFATE, PPM: 20 MAXIMUM HEAVY METALS, PP PB: 5 MAXIMUM HG: 1 MAXIMUM AS: 5 MAXIMUM CD 5 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 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. U 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. (AS APPLICABLE, SAFETY DATA SHEET SHOULD BE SUBMITTED WITH PO OFFER AND DURING MATERIAL DELIVERY)
1001130337	ADDITIVE DRILLING FLUID, YELLOW TO DARK	EXTREME LUBRICANT FOR UNDERBALANCE COILED TUBING DRILLING ADDITIVE DRILLING FLUID; YELLOW TO DARK AMBER LIQUID FORM, BLEND OF FATTY AMIDES ACID AND ESTERS, OR POLYOL ESTER OF FATTY ACIDS, FOR COMBUSTIBLE AMBER LIQUID BLEND OF POLYMERIZED FATTY AMIDE, ACID AND ESTER, OR POLYOL ESTER OF FATTY ACID USED IN SOLIDS-FREE DRILL-IN FLUIDS OR MONOVALENT BRINES TO REDUCE TORQUE AND DRAG IN HIGHLY TORTUOUS OR EXTENDED REACH WELLS, INCLUDING COILED TUBING, BLEND OF FATTY AMIDES ACID AND ESTERS, OR POLYOL ESTER OF FATTY ACIDS, 55 GAL (208 LITER) DRUM (NET VOLUME), APPEARANCE: YELLOW TO DARK AMBER. SWEET AND MILD ODOR SOLUBILITY IN WATER: INSOLUBLE IN WATER SPECIFIC GRAVITY AT THE RANGE BETWEEN 68F (20C): 0.95 - 1.05 FLASH POINT (PMCC): GREATER THAN 212 (100C) IT WILL NOT GEL OR PHASE OUT. SAUDI ARAMCO RESERVES THE RIGHT TO COLLECT REPRESENTATIVE PRODUCT SAMPLES AND CONDUCT LABORATORY TESTS TO ENSURE COMPLIANCE WITH THE MATERIAL DESCRIPTION AND SPECIFICATIONS. PRODUCT MANUFACTURER AND/OR SUPPLIER ARE REQUIRED TO SUBMIT LAB CERTIFICATE OF ANALYSIS (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. IT IS NON-DAMAGING TO PRODUCING ZONES, NON-TOXIC, ENVIRONMENTAL FRIENDLY AND HELPS PREVENT BIT BALLING AND DIFFERENTIAL STICKING. THE PRODUCT IS COMPATIBLE WITH SEAWATER AND MONOVALENT BRINE-BASED DRILLING FLUIDS. OTHER ASSOCIATED ELEMENTS MUST NOT BE HARMFUL TO PERSONNEL AND/OR ADVERSELY AFFECT FLUID PROPERTIES. (AS APPLICABLE, SAFETY DATA SHEET SHOULD BE SUBMITTED WITH PO OFFER AND DURING MATERIAL DELIVERY). PALLET, PLASTIC TYPE, HEAVY-DUTY SIZE (W X L X H), 120 X 120 X 15 CM, DOUBLE-DECK, 4-WAY ENTRY, RACKABLE/STACKABLE, ANTI-SLIP, CHEMICAL AND WEATHER RESISTANT, HYGIENIC AND RECYCLABLE AND SHALL BE CERTIFIED (BY A SAUDI ARAMCO RECOGNIZED INDEPENDENT MATERIALS TESTING AGENCY) FOR MINIMUM STATIC LOAD CAPACITY AS PER ISO 8611, MS 8314-05 PALLET PACKING SPECIFICATION.
1001133608	ADDITIVE DRILLING FLUID, HOMOGENEOUS MIL	SILICONE BASED DEFOAMER ADDITIVE DRILLING FLUID; HOMOGENEOUS MILKY WHITE LIQUID FORM, SILICONE BASED, FOR LIQUID SILICONE-BASED DEFOAMER FOR MITIGATION AND PREVENTION OF FOAMING. COMPATIBLE WITH MOST WATER BASE AND CLEAR BRINE FLUIDS. IT HELPS TO CONTROL OR PREVENT FOAMING. IT HAS NO SIGNIFICANT EFFECT ON FLUID RHEOLOGY OR MUD DENSITY. SILICONE BASED, 5 GAL PAIL (NET VOLUME), PHYSICAL AND CHEMICALS SPECS: APPEARANCE: HOMOGENEOUS MILKY WHITE LIQUID, SPECIFIC GRAVITY 0.95-1.1, SILICONE CONTENT (PERCENT): 20 MINIMUM, ODOR: MILD, SOLUBILITY IN WATER: DISPERSIBLE, FLASH POINT: GREATER THAN 100 DEG.C (212 DEG.F), VISCOSITY AT 25 DEG.C (CPS): 1000-3500, PH: 7-10. 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). 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. (AS APPLICABLE, SAFETY DATA SHEET SHOULD BE SUBMITTED WITH PO OFFER AND DURING MATERIAL DELIVERY)
6000000037	PIPE & FITTINGS; NONMETALLIC, SUBSEA	PIPE METALLIC; ANY NPS, ANY PE, PEX, PA, PVDF, PEEK, FLEXIBLE PIPE, ER, INTERMEDIATE LAYERS AND ER SHEATHING STRUCTURE, API 17J, APPLICATIONS: ONSHORE / OFFSHORE WATER AND HYDROCARBON APPLICATIONS, REINFORCEMENT: STEEL AND FIBER
6000000042	PIPE & FITTINGS; NONMETALLIC, RTP PIPE	PIPE NON-METALLIC; MAXIMUM 8 INCHES NPS, REINFORCED THERMOPLASTIC (RTP), INTERNAL / EXTERNAL LINING THERMOPLASTIC (PE, PE-RT, PP, PA, PVDF), PREFABRICATED SPOOL ENDS, FOR WATER AND HYDROCARBON APPLICATIONS MAX TEMP 180 F, API RP 15S, ONSHORE / OFFSHORE WATER AND HYDROCARBON APPLICATIONS
6000000066	TUBING; COPPER-ALLOY; EEMUA; ASTM	TUBING; ANY TYPE, COPPER-ALLOY, INCLUDING COPPER NICKEL (90-10, 70-30, C70600, OR C71500), EEMUA144, ASTM B466, ASTM B111
6000000134	SLEEVE; PIPE; TWO HALVES; BOLTED FLANGED	SLEEVE PIPE BOLTED; ANY NOM PIPE, STEEL, ANY WP, FOR PIPE REPAIR, FOR PIPE REPAIR
6000000181	FLANGE; PIPE; COPPER NICKEL, EEMUA 234	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.

600000188	FLANGE; COMPACT WN PAIR, M-F CONNECTOR	FLANGE PIPE; COMPACT FLANGE WN PAIR, WN-BLIND, WN-WN SWIVEL-RING OR AS DESIGNED TYPE,ASME CLASS 900 AND ABOVE SUPPLY,WN WITH SELF-ENERGIZING SEAL TERMINAL,ANY NPS,ANY STEEL PER 02-SAMSS-011,ASME SEC VIII DESIGN,02-SAMSS-011,COMPLETE ASSEMBLY WITH MALE-FEMALE CONNECTOR, SEAL RING, BOLTS AND NUTS
600000275	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
600000296	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-035,04-SAMSS-048 AWWA,WITH OR WITHOUT ACTUATOR
600000302	VALVE; GLOBE; CAST OR DUCTILE IRON;	VALVE GLOBE; ANY NPS,ANY RATING SUPPLY,ANY ENDS END CONN,CAST OR DUCTILE IRON BODY,04-SAMSS-035,04-SAMSS-048 04-SAMSS-002,WITH OR WITHOUT ACTUATOR, ANY SIZE
600000308	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.
600000686	BUILDING; SPACE FRAME; STEEL;	BUILDING; SPACE FRAME TYPE,SIZE ANY,STEEL,12-SAMSS-007,SAES-M-001 SAES-M-100,ONSHORE
600000722	TRANSMISSION: VARIABLE SPEED	COUPLING SHAFT; STYLE ANY,ANY BORE,13-SAMSS-001,API 613,HYDRAULIC OR PERMANENT MAGNET, VARIABLE OR ADJUSTABLE SPEED, WITH OR WITHOUT GEAR, WHEN GEARED ROTORS USED SHALL COMPLY WITH 13-SAMSS-001 AND API-613.
600000774	TRAY; CABLE, FIBERGLASS	TRAY; CABLE TYPE,FIBERGLASS,NEMA FG-1,S-P-104 SEC. 9
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
6000000882	TRANSFER SWITCH; AUTOMATIC, INDOOR, LV	SWITCH TRANSFER; 600V MAX,AUTOMATIC AND NON-AUTOMATIC ACTION,COMPLETELY ENCLOSED AND OPEN TRANSFER SWITCHES AND INTENDED FOR USE IN OTHER EQUIPMENT SUCH AS CONTROLGEAR AND SWITCHBOARD POSITION,AUTOMATIC TYPE,FOR INDOOR,16-SAMSS-521,LOW VOLTAGE,
6000000903	SWITCH; DISCONNECT; HIGH VOLTAGE;	SWITCH DISCONNECT; HIGH VOLTAGE,ANY ACTION,ELECTRICAL TYPE,30-TMSS-01
6000000940	ANODE; GALVANIC; ALUMINUM, WITH LEAD; CP	ANODE GALVANIC; ALUMINUM, WITH LEAD,17-SAMSS-006,CATHODIC PROTECTION
6000000999	FORM-WOUND BRUSHLESS SYNCH. MOTOR	MOTOR SYNCHRONOUS; 500 HP MINIMUM POWER,4000 V MINIMUM,3 PHASE PHASE,HORIZONTAL MTG,17-SAMSS-520
6000001011	POWER SUPPLY;ELECTRICAL;SOLAR,CP	POWER SUPPLY ELECTRICAL; HODIC PROTECTION POWER PLY ELECTRICAL SOLAR POWER TYPE,ANY POWER,ANY,17-SAMSS-012
6000001014	CP,POWER SUPPLY;RECTIFIER;IMPRESSED CURR	RECTIFIER IMPRESSED CURRENT; HODIC PROTECTION SE CONTROL TYPE,ANY OUTPUT,17-SAMSS-005
6000001040	ANODE GALVANIC;MAGNESIUM,WITHOUT LEAD,CP	ANODE GALVANIC; MAGNESIUM,17-SAMSS-006,CATHODIC PROTECTION WITHOUT LEADS
6000001301	DETECTOR; FIRE PROTECTION; SMOKE, HEAT	DETECTOR FIRE PROTECTION; SMOKE, HEAT, RADIANT ENERGY DETECTORS TYPE,UL-LISTED,FM-APPROVED NFPA 70,NFPA 72 (LAST ED) AND SAE-M-100,INCLUDE LINEAR, SPOT-TYPE, PROJECTED BEAM, IR/IR/IR, LASER, AIR-SAMPLING DETECTORS,#FIRE ALARM CONTROL PANELS, PULL STATIONS AND NOTIFICATION DEVICES. THE FIRE#ALARM/DETECTION COMPONENTS AND/OR FIRE ALARM/DETECTION SYSTEM SHALL HAVE AN#ADDRESSABLE PERFORMANCE OF CLASS A (SLC) AND CLASS A (NAC) WITH PATHWAY SURVIVABILITY#LEVEL 2. FOR INDUSTRIAL AND COMMERCIAL APPLICATIONS ONLY,
6000001304	UNIT: MOBILE FIREWATER SUPPLY	UNIT; MOBILE FIRE WATER SUPPLY SYSTEM TYPE,FULLY INTEGRATED ENGINEERED MOBILE FIREWATER SUPPLY SYSTEM SUCH AS SUBMERSIBLE PUMP SYSTEM, PORTABLE FIRE PUMP SKID PACKAGE, OR TRAILER MOUNTED PACKAGE (CONSISTING OF DIESEL DRIVE ENGINE, PUMP, HOSES, OIL SYSTEM, TANK, ELECTRICAL SYSTEM ENCLOSED IN A CONTAINER), THE CENTRIFUGAL PUMP IS 316 SS, DUPLEX STEEL, OR BETTER, IMPELLER/PUMP CASING/SHAFT UL/FM LISTED/APPROVED AND COMPLIES WITH THE MOST RECENT EDITION OF NFPA 20
6000001310	HYDRANT; FIRE; CASTED; 6 IN INLET	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.
6000001314	MONITOR; FIRE FIGHTING; HYDRANT-MOUNTED	MONITOR; FIREFIGHTING, HYDRANT-MOUNTED MANUALLY OPERATED TYPE,ANY RANGE,MEETING 21-SAMSS-16,INDUSTRIAL MONITOR SYSTEM, WILL BE INSTALLED ON#9COM 6000001310
6000001380	VALVE; FIRE WATER/PROTECTION SYSTEMS	VALVE; FIRE FIGHTING WATER SYSTEMS TYPE,SIZE ANY,AA UL/FM LISTED/APPROVED,INCLUDE POST INDICATOR VALVES (PIV), CHECK, SECTIONAL VALVES, OUTSIDE STEM & YOLK#(OS&Y), GATE OR BUTTERFLY VALVES, WALL POST INDICATOR VALVES (WPIV), CONTROL VALVES,#ALL VALVES MUST BE INDICATING, , COMPLIES WITH NFPA, , EXTERNAL COATING MUST BE CERTIFIED FOR CS-I/CS-M PER ISO 12944-6 BY 3RD PARTY LAB. IM2/IM3 3RD PARTY LAB CERTIFICATION IS ADDITIONALLY REQUIRED IF VALVE IS IMMERSERD/BURIED. MANUFACTURER#S STANDARD COATING CAN BE MAINTENANCE COATED BY SAUDI ARAMCO APCS CONFIRMED BY LETTER. INTERNAL COATING MUST BE RATED FOR USE IN STAGNANT SEAWATER FOR EXTENDED PERIODS. VALVE CONSTRUCTION MATERIAL SHALL BE AS PER SAES-L-108 TABLE 1 SALINE ENVIRONMENT CLASSIFICATION (EXCLUDING NOTE #22) SEE SAES-L-108 TABLE 4-B FOR SPECIFIC ALLOYS. ALL VALVES SHOULD BE PREPARED AND SHIPPED FOLLOWING MANUFACTURER'S RECOMMENDATIONS FOR OUTSIDE LONG TERM STORAGE IN CORROSIVE, HOT, AND HUMID ENVIRONMENT, CONTACT FRPD RSA FOR DETAILS S MUST BE
6000001430	FLOAT COLLAR; FOR MARINE HOSE	BEADS; SIZE ANY,NATURAL OR SYNTHETIC RUBBER SPONGE, POLYVINYL CHLORIDE FOAM, POLYETHYLENE FOAM OTHER SUITABLE MATERIAL.,FLOAT COLLAR FOR MARINE HOSES UNIT. 22-SAMSS-004 E FLOATATION
6000001582	CONTROLLER; ELECTRONIC;COMPRESSOR	CONTROLLER; COMPRESSOR INCLUDING SURGE CONTROL TYPE,ANY RANGE,SPECIALIZED CONTROL SYSTEMS



6000001823	AIR CONDITIONING UNIT; PACKAGED UNIT TRA	AIR CONDITIONING UNIT; PACKAGED UNIT TRAILERIZED TYPE,AIR COOLED,R-22 OR R-134A,MANUFACTURER STANDARD
6000001828	CHILLER; WATER; PACKAGED WATER COOLED FO	CHILLER WATER; PACKAGED WATER COOLED FOR UTILITY APPLICATIONS TYPE,ANY NOM,CENTRIFUGAL COMPRESS,R-134A,27-SAMSS-001,AHRI-550/590 ASHRAE 90.1
6000001838	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
6000001846	HEATER; DUCT; ELECTRIC;	HEATER DUCT; ELECTRIC ELEMENT,ANY
6000001860	DAMPER ; VALVE BLAST FOR HVAC SYSTEM	PREVENTER BACKFLOW; VALVE AND DAMPER TYPE,ANY NOM PIPE,ANY,ASTM-1642-04,GSA-TS01-2003 UFGS-23-33-56,VALVE AND DAMPER: BLAST PROTECTION FOR AC AND VENTILATION
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.
6000002255	CRANE;OVERHEAD;BRIDGE OR GANTRY;150T MAX	CRANE OVERHEAD; BRIDGE & GANTRY TYPE,UP TO 150 METRIC TON LIFT,VARIES SPAN,AS PER P.O. SPEED,LONG & CROSS TRAVEL TRAVEL,MANUAL OR ELECTRICAL DRIVE,N OR ENCLOSED PS OPERATIO,PENDANT OR CABIN CONTROL,BRIDGE,GANTRY,E B30. A 70 S-M-001
6000002323	CRANE; JIB; HOISTING; 1/2 TON TO 10 TON;	CRANE JIB; PILLAR MOUNTED OR WALL MOUNTED TYPE,1/2 TON TO 10 TON LIFT,ANY SPAN,ANY MAX HT,ANY ROTATION,MATERIAL HANDLING OPERATIO,SAMSS-007,S-H S-M-001,E B 30.11 & ASME B A 74
6000002338	COMPRESSOR; DRY-SCREW, FOR AIR SERVICE	COMPRESSOR; DRY-SCREW TYPE,31-SAMSS-002,FOR AIR SERVICE
6000002404	TOWER; COOLING; WATER;	TOWER COOLING; WATER TYPE,27-SAMSS-003,ASHRAE 90.1
6000002415	EJECTOR; AIR; STEAM OR WATER.;	EJECTOR; ANY PROCESS,ANY,AIR,STEAM OR WATER.,AIR, STEAM OR WATER.
6000002428	TIP; FLARE;	TIP; FLARE TYPE,32-SAMSS-022
6000002430	FURNACE; DIRECT FIRED; 32-SAMSS-029;	FURNACE; DIRECT FIRED TYPE,32-SAMSS-029
6000002431	FURNACE; INDIRECT FIRED;	FURNACE; INDIRECT FIRED TYPE,32-SAMSS-029
6000002434	HEAT EXCHANGER; MULTI-PIPE; 32-SAMSS-028	HEAT EXCHANGER; MULTI-PIPE TYPE,32-SAMSS-028
6000002436	HEAT EXCHANGER; ELECTRIC; 32-SAMSS-027;	HEAT EXCHANGER; ELECTRIC TYPE,32-SAMSS-027
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.
6000002655	ANALYZER; BOTTOM SEDIMENT AND WATER;	ANALYZER; BOTTOM SEDIMENT AND WATER TYPE,ANY RANGE,TO BE USED FOR LIQUID SERVICE APPLICATION ONLY NOT IN MULTI-PHASE SERVICE
6000002689	CALIBRATION GAS CYLINDER FOR GAS MONITOR	CYLINDER; CALIBRATION GAS TYPE,SIZE ANY,ANY,FOR COMBUSTIBLE & TOXIC GAS MONITORS ONLY
6000002696	PANEL; CONTROL; FIRE PUMP;	PANEL CONTROL; FIRE PUMP TYPE,UL 218 LISTED,FOR DIESEL/ELECTRICAL FIRE PUMP CONTROLLERS 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 218 LISTED WITHOUT 50 DEG/NEMA 4/4X ENCLOSURE, ALL PANELS MUST BE CAPABLE OF PROVIDING THE PUMPS SEQUENCING FUNCTIONS IN SAES-B-017 / SAES-P-116
6000002739	FLOWMETER; VORTEX; VORTEX SHEDDING;	FLOWMETER VORTEX; SHEDDING TYPE,ANY OPERATIN,34-SAMSS-010
6000002764	INSTRUMENT; LEVEL; RADIATION TYPE;	INSTRUMENT; LEVEL TYPE,LEVEL,RADIATION TYPE
6000002786	MONITOR; GAS; HYDROGEN SULFIDE;	MONITOR GAS; HYDROGEN SULFIDE,ANY RANGE,34-SAMSS-514
6000002810	REGULATOR; PRESSURE OR FLOW;	REGULATOR; PRESSURE OR FLOW TYPE
6000002822	GAUGE; RADAR; TANK GAUGING;	GAUGE; RADAR TYPE,ANY RANGE,34-SAMSS-319,TANK GAUGING EQUIPMENT FOR INVENTORY TANK USE ONLY.
6000002886	GAUGE; LEVEL; GLASS;	GAUGE LEVEL; GLASS TYPE,34-SAMSS-010,WITH BACKFLOW PREVENTER VALVE OR CHECK VALVE AS ASSEMBLY IF REQUIRED.
6000002914	ANALYZER; GAS CHROMATOGRAPH; Sheltered	ANALYZER; GAS CHROMATOGRAPH TYPE,ANY RANGE,34-SAMSS-510,PROCESS GAS OR LIQUID
6000003721	MUDLINE SUSPENSION:RUNNING & TIEBACK	SUSPENSION SUB-SEA MUDLINE; HANGERS, RUNNING AND RETRIEVING, AND TIEBACK TOOLS TYPE,45-SAMSS-005,API 6A AND 17D,FOR OIL AND EXPLORATION WELLS API MONOGRAMMED OR NON-MONOGRAMMED NACE MR0175 LOW ALLOY STEEL OR INCONEL MATERIAL
6000003763	MULTIBOWL ASSY:CASING AND TUBING; 10-15M	SPOOL CASING; LOW ALLOY STEEL,FOR H2S, CO2, AMINE,ANY TOP,API RING JOINT (FLANGED OR STUDDED) TOP CONN,ANY BTM,API RING JOINT (FLANGED OR STUDDED) BTM,API RING JOINT STUDDED OUTLET,45-SAMSS-005,API 6A AND NACE MR0175,PSL 3 OR 4,MR DD (WITH OR WITHOUT PARTIAL CLAD),PR 2 (QUALIFIED TO APPENDIX F TO 300F),TR U (275F),API MONOGRAMMED TO HANG ONE OR TWO CASING STRINGS IN ADDITION TO THE TUBING STRING WITH METAL TO METAL HANGERS SEALS WITH OR WITHOUT SIDE OUTLET GATE VALVES
6000003789	VALVE: BPV AND TWCV; WLHD	VALVE BACKPRESSURE WELLHEAD; FOR HS2, CO2, AMINE,UNS-N07718 BODY,HH TRIM,ALL SIZES HANGER,ANY NPS,API 6A,45-SAMSS-005 AND NACE MR0175,FOR BOTH PBV AND TWCV PRESSURE RATING 3M-15M PR-2 (QUALIFIED TO APPENDIX F TO 300F) TR-U (275F) MONOGRAMMED TO API 6A LATEST EDITION

6000003877	TUBING: OCTG; API GR; SEAMLESS	TUBING OCTG; STEEL,SEAMLESS,API-5C2,API-5B 45-SAMSS-006,SIZE ANY
6000003993	Viscosifier	CHEMICAL; ANY,ORGANIC AND INORGANIC MATERIALS USED TO INCREASE THE VISCOSITY OF WATER BASED MUD AND BRINES
6000004039	HANGER; LINER; FOR OIL WELLS	HANGER LINER; ANY END 1,ANY END 2,LINER HANGER AND ACCESSORIES FOR OIL WELLS
6000004043	DV TOOLS	CEMENTER; ANY TOOL OD,ANY DRILL OD,MULTI STAGE INFLATABLE AND MECHANICAL PACKER FOR CEMENTING (DV)
6000004055	COLLAR: PACKER; MECH; CEMENT	COLLAR PACKER; WITH MECHANICAL NON INFLATABLE PACKER TYPE,FOR CEMENTING TOOLS (DV),MULTI STAGE
6000004065	PACKER: PRODUCTION; KHf	PACKER PRODUCTION; PERMANENT TYPE,FOR H2S,WIRELINE SET AND HYDRAULIC SET ACTIVATI,ANY OD,ANY CONNECTN,KHUFF
6000004071	PLUG SET FOR DV TOOLS	PLUG CEMENTING; ANY TYPE,PLUG SET FOR DV TOOLS
6000004087	VALVE: SUB-SURFACE SAFETY	VALVE; SUB-SURFACE SAFETY TYPE,SIZE ANY,API-14A,NACE MR-01-75/ ISO 1515,API MONOGRAMMED,API MONOGRAMMED
6000007293	COUPLING: OCTG; HIGH NICKEL	COUPLING OCTG; DUPLEX STAINLESS STEEL AND NICKLE BASE ALLOYS,SEAMLESS,API-5CRA,ISO-13680 AND 45-SAMSS-006,GR API-5CRA GROUP-2 TO GROUP-4 GRADES,SIZE ANY,CAL-IV QUALIFIED THREAD END CONN,ANY LG
6000007303	CASING: OCTG; HIGH NICKEL; SEAMLESS	CASING OCTG; DUPLEX STAINLESS STEEL AND NICKLE BASE ALLOYS,SEAMLESS,API-5CRA,ISO-13680 AND 45-SAMSS-006,GR API-5CRA GROUP-2 TO GROUP-4 GRADES,SIZE 4-1/2 IN AND LARGER SIZES,CAL-IV QUALIFIED THREAD END CONN
6000007305	CROSSOVER: OCTG; HIGH NICKEL	ADAPTER OCTG NIPPLE/CROSSOVER/SWAGE; DUPLEX STAINLESS STEEL AND NICKLE BASE ALLOYS,SEAMLESS,API-5CRA,ISO-13680 AND 45-SAMSS-006,GR API-5CRA GROUP-2 TO GROUP-4 GRADES,CAL-IV QUALIFIED THREAD
6000007307	PUP JOINT: CASING OCSG; HIGH NICKEL	PUP JOINT OCTG; DUPLEX STAINLESS STEEL AND NICKLE BASE ALLOYS,SEAMLESS,API-5CRA,ISO-13680 AND 45-SAMSS-006,GR API-5CRA GROUP-2 TO GROUP-4 GRADES,SIZE 4-1/2 IN AND LARGER SIZES,CAL-IV QUALIFIED THREAD END CONN
6000008582	Water Treatment & Desalination Membranes	MEMBRANE; WATER TREATMENT & DESALINATION MEMBRANES TYPE,MEMBRANES FOR WATER PURIFICATION. SERVICE: WATER TREATMENT. TYPES: RO MEMBRANES AND BRACKISH WATER. MATERIAL: POLYAMIDE, CELLULOSE ACETATE/CELLULOSE TRIACETATE SPIRAL WOUND, HOLLOW FINE FIBER DIAMETER, NANO MEMBRANES: FOR SEAWATER AND BRACKISH WATER. MATERIAL: POLYSULFONE, CELLULOSE ACETATE, THIN FILM COMPOSITE SPIRAL WOUND, HOLLOW FIBER/CAPILLARY. CLASSIFICATION: WATER DESALINATION, WATER TREATMENT CONFIGURATION: FOR SEAWATER SIZE: 4/8/10 INCH
6000009831	CUSTODY METER, TURBINE, LIQUID	FLOWMETER TURBINE; CUSTODY TRANSFER LIQUID TYPE,ANY,34-SAMSS-117
6000009832	CUSTODY METER, POS DISPL , LIQUID	FLOWMETER POSITIVE DISPLACEMENT; CUSTODY TRANSFER LIQUID TYPE,ANY,34-SAMSS-118
6000009893	CUSTODY AUTOMATIC SAMPLING, LIQUID	SAMPLER; CUSTODY TRANSFER TYPE,34-SAMSS-525
6000009898	CUSTODY CHROMATOGRAPH, GAS OR LIQUID	CHROMATOGRAPH PROCESS; FOR CUSTODY TRANSFER CHROMOTOGRAPHY,ANY DETECTOR,ANY CARRIER,34-SAMSS-510
6000009900	CUSTODY FLOW COMPUTER, GAS, PANEL-MNTD	COMPUTER FLOW; PANEL MOUNTED TYPE,34-SAMSS-846,FOR GAS CUSTODY TRANSFER
6000009906	CUSTODY PRESET CONTL, TRUCK LOAD&UNLOAD	COMPUTER FLOW; CUSTODY PRESET CONTROLLER TYPE,34-SAMSS-847,FOR TRUCK LOADING AND UNLOADING SYSTEMS
6000009908	Custody Tank Gauge, Radar	GAUGE TANK LEVEL; ANY TYPE,ANY RANGE,34-SAMSS-321,CUSTODY TANK RADAR GAUGE, CUSTODY TRANSFER TANK LEVEL GAUGING
6000010782	CONTROLLER; SMART VALVE POSITION TYPE	CONTROLLER; SMART VALVE POSITION TYPE,ANY RANGE,34-SAMSS-634,FOR USE WITH EMERGENCY SHUTDOWN VALVES.
6000012401	OHL COMPOSITE INSULATOR FOR T & D	INSULATOR TRANSMISSION & DISTRIBUTION; OHL COMPOSITE TYPE,UP TO 230 KV,15-SDMS-02,15-TMSS-5
6000012733	CHILLER: ABSORPTION; WATER COOLED	CHILLER; ANY TYPE,ANY SUPPLY,AHRI 560,UL-1995 ASHRAE 90.1,ABSORPTION, SUSTAINABLE, HIGH EFFICINCY, COMPRESSOR-LESS, WATER COOLED DIRECT FIRED OR EXCESS/WASTE STEAM/HEAT FOR HVAC APPLICATION.
6000013330	FILTER, AIR, CHEMICAL	FILTER; ANY TYPE,FOR AIR, CHEMICAL,ISA 571.04,ASTM-D6646 OR ASHRA
6000013331	FILTER, AIR, HEPA	FILTER; ANY TYPE,FOR AIR, HEPA,UL-586
6000013332	AIR HANDLING UNIT; CHILLED WATER	AIR HANDLING UNIT; CHILLED WATER,ASHRAE-127,UL-1995,PRECISION COOLING FOR CONTROL, COMMUNICATION AND DATA PROCESSING ROOMS
6000013333	AIR CONDITIONING UNIT; SPLIT	AIR CONDITIONING UNIT; SPLIT TYPE,DIRECT EXPANSION,R-22 OR R-134A,ASHRAE-127,UL-1995,PRECISION COOLING FOR CONTROL, COMMUNICATION, AND DATA PROCESSING
6000013337	HOOD; FUME, COMMERCIAL COOKING	HOOD; FUME, COMMERCIAL COOKING TYPE,ANSI/ASHRAE 154
6000013339	HOOD; FUME, LABORATORY	HOOD; FUME, LABORATORY TYPE,ANSI/ASHRAE 110,UL-1805
6000013820	REACTOR INTERNALS	REACTOR; REACTOR INTERNALS TYPE,AXIAL FLOW REACTORS, RADIAL FLOW REACTORS AND REGENERATORS COMPRISING OF DISTRIBUTION AND (RE)-DISTRIBUTION TRAYS, INLET DIFFUSERS, QUENCH MIXING, FILTER DECKS, CATALYST SUPPORT GRIDS, OUTLET COLLECTORS, SUPPORT BEAMS, CENTERPIPE, OUTER GRIDS, SCALLOPS, INNER AND OUTER SCREENS
6000013900	PIPE & FITTINGS; NONMETALLIC; PTFE&PFA	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.
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
6000014524	HUMIDIFIER: HVAC; DUCTED	HUMIDIFIER; ELECTRIC, GAS, OR HOT WATER COMMERCIAL/INDUSTRIAL TYPE,ANY,110 VAC-460 VAC, 60 HZ,ANSI/AHRI-640,ANSI/AHRI-640 CERTIFICATE
6000014531	MPPM FOR GAS FIELD APPLICATION	FLOWMETER; MULTIPHASE FLOWMETER TYPE,34-SAMSS-001,FOR GAS,FLOW RATE MEASUREMENT
6000014710	FLANGE; PIPE: CONNECTOR, MECHANICAL END	FLANGE PIPE; CONNECTOR TYPE,ANY NPS,ANY,MECHANICAL END CONNECTORS

6000014870	POLE LINE; POWER TRANSMISSION, 69 KV	POLE LINE; POWER TRANSMISSION TYPE,ANY LG,TAPERED TUBULAR STEEL SHAPE,GALVANIZED STEEL,SEC 20-TMSS-02,RATED 69 KV AND UP.
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.
6000014900	MACHINE; HOT TAP; PIPELINE SERVICE	MACHINE; HOT TAP TYPE,WITH/WITHOUT POWER UNIT
6000015510	ANODE;GALVANIC,HIGH TEMPERATURE ZINC,CP	ANODE GALVANIC; HIGH TEMPERATURE ZINC,17-SAMSS-006,CATHODIC PROTECTION
6000015751	CASING HANGER: FLUTED TYPE; 10-15M	HANGER CASING WELLHEAD; LOW ALLOY STEEL, FOR H2S, CO2 AND AMINE INHIBITOR, PR 10-15M, ANY BOWL, MANDREL AND FLUTED DESIGN, ANY CASING OD, 45-SAMSS-005, MONOGRAMMED TO API 6A (LATEST EDITION), PSL 3 OR 4, MR DD-NL, PR 2 (QUALIFIED TO APPENDIX F TO 300F), TR U (275F), API 6A MONOGRAMMED
6000015782	GAS LIFT EQUIPMENT	MANDREL; ANY TYPE, GAS LIFT EQUIPMENT
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.
6000016111	DRAG REDUCING AGENT (DRA)	CHEMICAL; ANY, SAEP-501, DRA IT IS A CHEMICAL THAT IS COMPOSED OF LONG CHAINS OF VERY HIGH MOLECULAR WEIGHT POLYMERS SUSPENDED IN A CARRIER FLUID USED IN FLUID-TRANSPORTING-PIPELINE TO REDUCE PIPELINE FRICTIONAL LOSSES/PRESSURE DROP FOR THE PURPOSE OF INCREASING PIPELINE FLOW RATE AND/OR DECREASING PIPELINE OPERATING PRESSURE
6000016483	MUD SYSTEM - Cutting Edge Drilling Chemical / System Technology	ADMIXTURE DRILLING MUD; ANY, DRILLING FLUIDS SYSTEM OR PRODUCT USED AS WATER BASED MUD (WBM) OR OIL BASED MUD (OBM) OR FOR SPECIAL APPLICATION TO DRILL THE RESERVOIR OR NON-RESERVOIR HOLE SECTIONS. EXAMPLES NON-CONVENTIONAL LCM, HIGH OVER BALANCE MUD SYSTEM, SHALE INHIBITION MUD SYSTEM, RESERVOIR DRILL-IN FLUID (RDF), FILTER CAKE REMOVAL SYSTEM, HIGH PERFORMANCE WATER BASE MUD (HPWBM), HIGH PERFORMANCE OIL BASE MUD (HPOBM), SPACER CLEANING SYSTEM
6000016831	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.
6000016991	UNIT; MOBILE SUBSTATION; 69KV AND BELOW	UNIT; MOBILE SUBSTATION TYPE, OPERATING AT 69KV AND BELOW
6000017130	FIRE-RETARDANT RTR	PIPE NON-METALLIC; ANY NPS, ANY, 01-SAMSS-034, SAES-B-017, ISO 14692, PIPE & FITTING, FIRE-RETARDANT NONMETALLIC RTR FOR ABOVEGROUND FIREWATER SYS. EPOXY BASED REINFORCED THERMOSETTING RESIN PRESSURIZED PIPE. FILAMENT WOUND MANUFACTURING PROCESS WITH ADDITIONAL FIRE RETARDANT LAYER FOR ABOVEGROUND FIREWATER PIPING SYSTEMS (RAW/FIRE COMBINED WATER SYSTEM AND DEDICATED FIREWATER SYSTEM) IN ACCORDANCE WITH FM 1614. FIRE PERFORMANCE CLASSIFICATION AS PER ISO 14692-2 SECTION 6.5.2.
6000017141	INLINE MIXING UNIT;	UNIT; VALVE/SPOOL TYPE, SAES-A-010, 01-SAMSS-010 ANSI B31.3, INLINE HIGH EFFICIENCY MIXER PACKAGE, ADJUSTABLE OR STATIC, TYPICALLY HAS SPOOL OR VAVLE, FITTINGS, INJECTION CONE, INJECTION PIPE SPOOL, INJECTION QUILL, HOUSING, INTERNAL MIXING PARTS. FOR SOUR AND NON SOUR SERVICE NPS PRODUCT RANGE PER PR, ANSI FLANGE 150 TO 900#. FOR MIXING OIL WITH WATER OR CHEMICALS. FABRICATION WITH APPROVED MANUFACTURER
6000017250	SUPPRESSOR, FIRE PROTECTION, WET CHEMICA	SUPPRESSOR; FIRE PROTECTION, WET CHEMICAL SYSTEM FOR COMMERCIAL COOKING EQUIPMENT TYPE, UL 300 LISTED, FIRE EXTINGUISHING SYSTEMS FOR, ALL COMPONENTS INCLUDING AGENT CYLINDERS, INSTRUMENTATION, FUSIBLE LINKS, INITIATING DEVICES, WET CHEMICAL, EXPELLANT GAS, PNEUMATIC RELEASE, ACTIVATION MECHANISM, CONTROL EQUIPMENT FOR POWER/GAS, COVERS, CONTROL PANELS.
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
6000017370	SEAL, PRIMARY, FOR EXTERNAL FLOATING ROOF	SEAL; PRIMARY TYPE, 32-SAMSS-005, FOR EXTERNAL FLOATING ROOFS
6000017371	SEAL, SECONDARY, EXTERNAL FLOATING ROOFS	SEAL; SECONDARY TYPE, 32-SAMSS-005, FOR EXTERNAL FLOATING ROOFS
6000017500	UNIT, 3D PRINTED PARTS FOR CRITICAL APP.	UNIT; SAEP-411, ANY METALLIC AND NONMETALLIC 3D PRINTED PARTS COMPONENTS FOR CRITICAL APPLICATIONS AS DEFINED IN SAEP-411
6000017570	BURNER, BOILER, STEAM GENERATOR	BURNER; BOILER, STEAM GENERATOR TYPE, SIZE ANY, ANY SHAPE, ANY METAL, 32-SAMSS-021

6000017680	COATING, ELECTRICAL INSULATORS, HIGH VOL	COATING; ELECTRICAL INSULATORS TYPE, FOR HIGH VOLTAGE, SILICON
6000018060	VESSEL, PRESSURE, ANY, FIBREGLASS-REINFO	VESSEL; PRESSURE TYPE, ANY, FIBREGLASS-REINFORCED PLASTIC (FRP), 32-SAMSS-039, WATER SERVICES ONLY
6000018110	FENCE, RIGID WELDED MESH (RWM), 3 METERS	FENCE; RIGID WELDED MESH (RWM) FENCE TYPE, AS PER SAES-O-202 REQUIREMENTS
6000018420	MACHINE; TRANSFORMER FLUID TREATMENT	MACHINE; TRANSFORMER FLUID TREATMENT TYPE, 26-SAMSS-059, IEC 60292-1 IEC 60292-2, IEC 60296 IEC 60529, EN 60204-1 ASTM D3487 PNEUROP 6606-1981 - DIN 28403
6000018430	REACTOR; AIR CORE, 4.16KV UP TO 380KV	REACTOR; AIR CORE SERIES TYPE, 4.16KV UP TO 380KV SUPPLY, SAES-P-116, 58-TMSS-02, FOR CURRENT LIMITING (DAMPING) IN SERIES WITH SHUNT CONNECTED CAPACITOR UNITS 4.16KV UP TO 380KV
6000002393	BOILER; FIRE TUBE; AND COMONENTS	BOILER; FIRE TUBE AND COMPONENTS TYPE, 32-SAMSS-021