United Business Corner
For General Trading LTD

CHEMICAL Products

DOWNSTREAM & UPSTREAM

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Upstream

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3. **Refinery and finished Fuel Additives**

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   Conductivity improvers
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5. Dispersants
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19. Petrochemical Additives
1. Petrochemical Additives

1.1 Aldol inhibitors
Stop the information of aldol polymers

Typical Applications
1. Caustic tower

1.2 Antifoams
Control foaming and prevent Foamovers in process equipment

Typical Applications
1. Amine scrubber
2. Butadiene extractive distillation
3. Caustic tower
4. Dilution steam generator
5. Water quench tower

1.3 Antifoulants
Prevent the information and/or deposition of organic and Inorganic foultants

Typical Applications
1. Charge gas compressor
2. Fractionation section
3. Oil quench tower
1.4 Antioxidants
Control fouling in process equipment by stopping polymerization reactions

Typical Applications
1. Butadiene Extractive distillation
2. Butadiene Purification
3. Caustic tower
4. Fractionation section
5. Oil quench
6. Styrene
7. Styrene Purification

1.5 Cleaning Services
Petrochemical plant tank, Vessel and exchanger cleaning and degassing services

Typical Applications
1. Commissioning
2. Connecting piping
3. Heat exchangers
4. Process vessels
5. Storage tanks
6. Turnarounds
1.6 Corrosion inhibitors
Control corrosion in process equipment

**Typical Applications**
1. Amine scrubber
2. Ethylene dichloride
3. Fractionation section
4. Pyrolysis gasoline hydrogenation
5. Styrene

1.7 Dispersants
Prevent deposit formation on critical heat transfer surfaces

**Typical application**
1. Ethylene dichloride purification
2. Fractionation section

1.8 Emulsion Breakers
Control emulsion formation and buildup in process equipment

**Typical application**
1. Dilution steam generator
2. Water quench tower
1.9 Neutralizers
Control pH to reduce corrosion in process equipment

**Typical Application**
1. Charge gas interstage condenser
2. Dilution steam generator
3. Primary fractionator
4. Water quench tower

1.10 Passivators
Deactivate metal surfaces after cleaning

**Typical Applications**
1. Fractionation column
2. Reboiler

1.11 Stability Additives
Help improve storage stability

**Typical Applications**
1. C2 streams
2. Pyrolysis gasoline
2 - Refinery Process Chemical

2.1 Antifoams
Control and prevent foaming in process

Typical applications
1. Amine gas treating
2. Delayed coker
3. Sour water stripper
4. Visbreaker

2.2 Antifoulants
Prevent the information and/or deposition of organic and inorganic foulants

Typical applications
1. Burner tip
2. Compressor
3. Crude distillation unit
4. Crude and vacuum heater
5. Delayed coker
6. Desalter
7. FCCU, RFCCU
8. Hydrotreater
9. Hydrocracker
10. Lube plant
11. Sour water stripper
12. Visbreaker

2.3 Clarifiers
Remove oil and water soluble organics from water

Typical Applications
1. Delayed coker
2.4 Cleaners
Remove deposits and oil from inside and outside of process equipment

**Typical Application**
1. Connecting piping
2. External surface clearing
3. Heat exchangers
4. Process vessels
5. Strong tanks

2.5 Cotaminant Removal Technologies
Remove amines and metals from crude oils

**Typical Applications**
1. Crude unit desalters
2. FCCU feed desalters
3. Resid hydrotreater

2.6 Corrosion Inhibitors
Minimize the corrosive effects of scid and acid gases either present in the crude oil or formed during the refining process

**Typical Applications**
1. Alkylation unit
2. Amine gas treating
3. Crude distillation unit
4. Celayed coker
5. FCCU, RFCCU
6. Hydrotreater
7. Hydrocracker
8. Naphtha reformer
9. Sour water stripper
10. Visbreaker
2.7 Corrosion Monitoring and Risk Assessment
Identify potential sources of corrosion and determine necessary mitigating actions

**Typical Applications**
1. Crude unit overheads
2. FCC unit overheads
3. High-temperature corrosion
4. Light ends unit overheads
5. Thermodynamic phase behavior modeling
6. Wash water design

2.8 Demulsifiers/Emulsion Breakers
Separate water from oil

**Typical Applications**
1. Crude oil storage
2. Crude distillation unit
3. Delayed coker
4. Recovered oil storage

2.9 Neutralizer
Control corrosion process equipment

**Typical Applications**
1. Alkylation unit
2. Crude distillation unit
3. Naphtha reformer

2.10 Metal Passivators
Mitigate deleterious effects of metals

**Typical Applications**
1. FCCU, RFCCU
2.11 Polymers
Aid liquid-solid separation

**Typical Applications**
1. Crude distillation unit
2. Delayed coker
3. Recovered oil storage

2.12 Reactor Bed Agglomerants
Relieve reactor bed P constraints due to accumulated iron-based deposits

**Typical Applications**
1. Hydrocracker
2. Hydrointerater

2.13 Slurry Setting Aids
Promote setting of cef fines from slurry oil tankage to produce lower ash content slurry oil

**Typical Applications**
1. FCCU, RFCCU

2.14 Wetting Agents
Make solids oil-wet in the hydrocarbon phase

**Typical Applications**
1. Crude distillation unit
2. Recovered oil storage
3- Refinery and finished Fuel Additives

3.1 Antioxidants
Improve storage and color stability of gasoline and cracked stocks

Typical Applications
1. Cracked stock
2. Gasoline
3. Intermediates

3.2 Biocides
Reduce storage tank bottom corrosion, improve fuel quality and filterability

Typical Applications
1. Distillates
2. Gasoline

3.3 Cold-Flow Plugging Point (CFPP) Additives
Improve handling characteristics of fuels by reducing CFPP

Typical Applications
1. Distillates

3.4 Conductivity Improvers
Increase conductivity of fuel

Typical Applications
1. Aviation fuel
2. Ground fuel
3.5 Dehazers and Emulsion Preventatives
Improve water haze rating of stored fuels, enhance water shedding of additized fuels

**Typical Applications**
1. Distillates
2. Gasolin
3. Residual fuel

3.6 Dispersants
Rescue filterable residue of treated fuels

**Typical Applications**
1. Diesel fuel
2. Residue fuel

3.7 Drag Reducers
Increase throughput, reduce frictional pressure loss

**Typical Application**
1. Marine vessel and railcar loading/unloading
2. Oil and gas gathering lines
3. Refinery transfer lines

3.8 Filtration Services
Remove water, solids, and other contaminants, improve MSEP and JFTOT in aviation fuels

**Typical Applications**
1. Diesel fuel
2. Distillates
3. Jet fuel
3.9 H2S Scavengers

Reduce levels of H2S dissolved in fuels and in tankage or vessel head space

Typical Applications
1. Asphalt and resid
2. Crude oil
3. Distillates
4. Flare gas
5. Gasoline/components
6. Heavy fuel
7. Propane

3.10 High-Temperature Corrosion/Combustion Improvers

Magnesium and other metal-based products to reduce high-temperature corrosion in turbines and boilers and to reduce particulate or acidic emissions

Typical Applications
1. Diesel
2. Residual

3.11 Low-Temperature Flow Test (LTFT) Additives

Improve operability characteristics of fuels by reducing LTFT

Typical Applications
1. Distillates
3.12 Lubricity Additives
Improve lubricity of low-sulphur fuel

Typical Applications
1. Diesel fuel
2. Gasoline
3. Marine fuels

3.13 Mercaptan Scavengers
Put fuel on specification with respect to mercaptan concentration

Typical Applications
1. Fuel oil
2. Gas oil
3. Gasoline
4. Gasoline components

3.14 Metal Deactivators
Improve storage and color stability of gasoline and other fuels

Typical Applications
1. Gasoline
2. Jet fuel

3.15 Multipurpose Additive Packages
Combine different fuel additives to address multiple fuel problems

Typical Applications
1. Distillates (diesel)
2. Gasoline
3.16 Nonferrous (Cu and Ag) corrosion Inhibitors

Allow fuels to pass copper strip test specification, inhibit corrosion attack on nonferrous metals.

**Typical Applications**

1. Butane
2. Components
3. Mid-distillates
4. Propane

3.17 Pipeline/Rust Corrosion Inhibitors

Add to fuels transferred by pipeline to meet pipeline company corrosion specifications and protect engine fuel system.

**Typical Applications**

1. Distillates
2. Gasoline
3. Jet fuel

3.18 Pour-point Deoressants

Improve handling characteristics of fuels by reducing pour-point temp.

**Typical Applications**

1. Crude oil
2. Distillates
3. Heavy fuel oil
3.19 Stability Additives

Improve strong and color stability of diesel

**Typical Applications**

1. Diesel
2. Gas oil

3.20 Sulfur Extraction Services

React extract sulfur from light hydrocarbons

**Typical Applications**

1. Butane
2. Gasoline
3. Naphthne
4. Propane
4- Water Treatment Chemicals

4.1 Antifoams/Defoamers
Prevent the formation of foam and eliminate existing foam

Typical Application
1. Activated sludge system
2. Boiler water
3. Effluent water treatment
4. Open recirculating cooling water system

4.2 Biocides
Control algae and bacterial growths

Typical Applications
1. Closed cooling water system
2. Once-through cooling water system
3. Open recirculating cooling water system
4. Water pretreatment

4.3 Clarification Aids
Remove oil and water soluble organics from water

Typical Applications
1. Water pretreatment

4.4 Cleaners
Remove solids, scale, biological slime, and hydrocarbons

Typical Applications
1. Cooling tower fill
2. Heat exchanger and piping
3. Ion exchange units
4. Reverse osmosis units
4.1 Antifoams/Defoamers
Prevent the formation of foam and eliminate existing foam

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Typical Applications
1. water pretreatment

4.4 Cleaners
Remove solids, scale, biological slime, and hydrocarbons

Typical Applications
1. Cooling tower fill
2. Heat exchanger and piping
3. Ion exchange units
4. Reverse osmosis units
4.5 Coagulants
Neutralize the charge on suspended particles to destabilize colloids

**Typical Applications**
1. Effluent water treatment
2. Water pretreatment

4.6 Copper corrosion Inhibitors
Minimize the effects of corrosive water to yallo metales

**Typical Application**
1. Closed cooling water system
2. Once-through cooling water system
3. Open recirculating cooling water system

4.7 Corrosion Inhibitors

**Typical Application**
1. Boiler feed water
2. Closed cooling water system
3. Condensate system
4. Once-through cooling water system
5. Open recirculating cooling water system

4.8 Demulsifiers/Emulsion Breakers
Separate water from oil

**Typical Applications**
1. Effluent water treatments
2. Slop oil recovery
3. Sludge treatment
4.9 Dispersants
Prevent deposite formation on critical heat-transfer surface

**Typical Applications**
1. Boiler feed water
2. Closed cooling water system
3. Once-through cooling water system
4. Open recirculating cooling water system

4.10 Filtration Aids
Aggregate doids so they are more effectively removed by filtration

**Typical Applications**
1. Water pretreatment

4.11 Flocculants
Aggregate abridge particle, which aids their removal

**Typical Application**
1. Activated sludge system
2. Effluent water treatment
3. Water pretreatment

4.12 Hydrocarbone Dispersants
Disperse entrained oil into the water phase

**Typical Applications**
1. Open recirculating cooling water system

4.13 Metal Passivators
Mitigate deleterious effects of metals on catalysts and control corrosion

**Typical Applications**
1. Boiler feed water
2. Condensate systems
4.14 Oxygen Scavengers
Control corrosion in preboiler and internal boiler water systems

**Typical Applications**
1. Boiler feed water
2. Condensate systems

4.15 Control Additives
Control scale and deosite formation in high-hardness system

**Typical Applications**
1. Boiler feed water
2. Boiler water
3. Closed cooling water system
4. Desalination units
5. Once-through cooling water system
6. Open recirculation cooling water system
7. Other process units
8. Reversed osmosis units
9. Sour water stripper
10. Water pretreatment

4.16 Setting Aids
Improve the remival if solids from raw water

**Typical Applications**
1. Water pretreatment
4.17 Sludge Dewatering/thickening Aids

Increase the solids content

Typical Applications

1. Slop-oil recovery
2. Sludge treatment

4.18 Tank Cleaners

Allow the removal of deposits and oil

Typical Applications

1. Sludge treatment
2. Storage tanks