



شركة ركن الأعمال المتحدة  
للتجارة العامة المحدودة  
**United Business Corner**  
For General Trading LTD

# CHEMICAL Products

DOWNSTREAM & UPSTREAM

# Upstream

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# Downstream

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# 1. Petrochemical Additives

## 1.1 Aldol inhibitors

Stop the formation 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 formation and/or deposition of organic and

Inorganic foulants

### 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 formation 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 Contaminant 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 sulfur 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. Delayed 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. Hydrotreater

## 2.13 Slurry Setting Aids

Promote setting of coker 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. Gasoline
3. Residual fuel

## 3.6 Dispersants

Rescue filterable residue of treated fuels

### Typical Applications

1. Diesel fuel
2. Residual 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 H<sub>2</sub>S Scavengers ►

Reduce levels of H<sub>2</sub>S 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-Tempereture 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-Temereture Flow Test (LTFT)Additives

Improve operability characterstics 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

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### Typical Application ►

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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 yellow metals

### 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 deposit 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 colloids 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 removal of 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