



# CODEX

Industrial Lubricants



**Formulated by Korea**

|                         |                         |                     |
|-------------------------|-------------------------|---------------------|
| ISO 9001-2014 Certified | Nanotechnology Enhanced | Formulated by Korea |
|-------------------------|-------------------------|---------------------|

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## About Codex Oil International

Codex Oil International is a leading supplier of automotive, industrial, and marine lubricants based in Dhaka, Bangladesh. Established with a commitment to engineering excellence, we serve the full spectrum of Bangladeshi industry from textile mills and cement plants to shipping fleets and power generation facilities.

**Our Mission** - "Quality Always Wins." Every Codex lubricant is formulated to exceed industry benchmarks."

## Why Choose Codex Industrial Lubricants

- ✓ Nanotechnology additives for superior film strength and wear protection
- ✓ ISO 9001:2015 quality management system certified
- ✓ Full traceability from base oil to finished product batch
- ✓ Technical support from lubrication engineers
- ✓ Flexible packaging from 1L retail to 205L bulk drums
- ✓ Competitive pricing without compromising on specifications



## Industries Served

| Industry              | Primary Applications                             | Recommended Product Lines                |
|-----------------------|--------------------------------------------------|------------------------------------------|
| Textile & Garments    | Spinning frames, knitting machines, dyeing equip | Hydraulic, Compressor, Textile Oils      |
| Cement & Construction | Crushers, kilns, conveyor systems, heavy gearbo  | Gear, Engine, Hydraulic                  |
| Power & Energy        | Steam turbines, gas engines, transformers, pumps | Turbine, Engine, Specialty, Generator    |
| Marine & Shipping     | Main engines, auxiliary engines, deck machinery  | Engine, Gear, Hydraulic, Marine          |
| Food & Pharma         | Compressors, pumps, processing equipment         | Compressor, Hydraulic, Grease, White Oil |
| Steel & Engineering   | Rolling mills, CNC machines, heat treatment      | Hydraulic, Gear, Specialty, Metalworking |

## Hydraulic Oils

Codex hydraulic oils are formulated with premium base stocks and advanced anti-wear additive packages to protect high-pressure hydraulic systems operating in industrial and mobile equipment. Our range covers ISO VG 32 through 100, meeting HM (anti-wear) performance requirements.





## Product Range:

### Codex Hydraulic 32

- Viscosity @ 40°C: 32 cSt, Viscosity index:  $\geq 95$  • Pour point:  $\leq -15^{\circ}\text{C}$  • Flash point:  $\geq 180^{\circ}\text{C}$

### Codex Hydraulic 46

- Viscosity @ 40°C: 46 cSt • Viscosity index:  $\geq 95$  • Pour point:  $\leq -12^{\circ}\text{C}$  • Flash point:  $\geq 190^{\circ}\text{C}$

### Codex Hydraulic 68

- Viscosity @ 40°C: 68 cSt • Viscosity index:  $\geq 95$  • Pour point:  $\leq -9^{\circ}\text{C}$  • Flash point:  $\geq 200^{\circ}\text{C}$

### Codex Hydraulic 100:

- Viscosity @ 40°C: 100 cSt • Viscosity index:  $\geq 95$  • Pour point:  $\leq -6^{\circ}\text{C}$  • Flash point:  $\geq 210^{\circ}\text{C}$

## Performance Specifications:

| Property              | Test Method             | ISO VG 32  | ISO VG 46  | ISO VG 68  | ISO VG 100 |
|-----------------------|-------------------------|------------|------------|------------|------------|
| Density @ 15°C        | ASTM D1298              | 860–880    | 860–880    | 870–890    | 880–900    |
| Kinematic Viscosity   | 40°C (cSt)<br>ASTM D445 | 28.8–35.2  | 41.4–50.6  | 61.2–74.8  | 90–110     |
| Viscosity Index       | ASTM D2270              | $\geq 95$  | $\geq 95$  | $\geq 95$  | $\geq 95$  |
| Flash Point, COC (°C) | ASTM D92                | $\geq 180$ | $\geq 190$ | $\geq 200$ | $\geq 210$ |
| Pour Point (°C)       | ASTM D97                | $\leq -15$ | $\leq -12$ | $\leq -9$  | $\leq -6$  |
| Copper Corrosion      | 100°C)ASTM D130         | $\leq 1b$  | $\leq 1b$  | $\leq 1b$  | $\leq 1b$  |
| Demulsibility (min)   | ASTM D1401              | $\leq 30$  | $\leq 30$  | $\leq 30$  | $\leq 30$  |



## Gear Oils:

Codex gear oils are designed to protect heavily loaded gearboxes, differentials, and transmissions under severe operating conditions. Our GL-5 extreme pressure formulations provide outstanding protection against scoring, pitting, and wear in hypoid and spiral-bevel gears.

## Product Range

### Codex Gear Oil 90 GL-5:

- SAE 90 | API GL-5 | Extreme pressure gear oil
- Viscosity @ 100°C: 13.5–18.5 cSt
- API Service: GL-5
- EP additive: Sulphur-phosphorus.
- Packaging: 4L, 20L, 205L

### Codex Gear Oil 140 GL-5:

- SAE 140 | API GL-5 | Heavy-duty EP gear oil
- Viscosity @ 100°C: 24–32 cSt.
- API Service: GL-5.
- High load-carrying capacity.
- Excellent thermal st.
- Packaging: 4L, 20L, 205L

## Performance Specifications

| Property                          | Test Method | SAE 90    | SAE 140 |
|-----------------------------------|-------------|-----------|---------|
| Density @ 15°C (kg/m³)            | ASTM D1298  | 890–910   | 900–920 |
| Kinematic Viscosity @ 100°C (cSt) | ASTM D445   | 13.5–18.5 | 24–32   |
| Viscosity Index                   | ASTM D2270  | ≥75       | ≥75     |
| Flash Point, COC (°C)             | ASTM D92    | ≥180      | ≥200    |
| Pour Point (°C)                   | ASTM D97    | ≤-12      | ≤-6     |
| API Service Category              | —           | GL-5      | GL-5    |
| Timken OK Load (lbs)              | ASTM D2782  | ≥60       | ≥60     |



## Industrial Engine Oils:

Codex industrial engine oils are formulated for diesel and gasoline engines operating in stationary power generation, construction equipment, marine propulsion, and heavy transport. Our range spans monograde HD oils to modern multigrade CJ-4 formulations for Tier 4 and Euro 5 engines.



## Product Range:

**Codex HD 40** - SAE 40 | API CF/SF | Stationary diesel engines.

- Viscosity @ 100°C: 12.5–16.3 cSt.
- API: CF/SF.
- High total base number (TBN)
- Packaging: 205L

**Codex HD 50** - SAE 50 | API CF/SF | Hot climate, high-load engines

- Viscosity @ 100°C: 16.3–21.9 cSt.
- API : CF/SF
- Superior high-temperature stability
- Packaging: 3L, 5L, 205L.

**Codex Diesel Special 15W-40** - API CJ-4 | CI-4+ | ACEA E9 | Heavy-duty diesel

- Viscosity @ 100°C: 12.5–16.3 cSt
- API: CJ-4 / CI-4
- Packaging: 10L, 20L, 205L.



## Codex Diesel Special 20W-50 - API CJ-4 | CI-4+ | High ambient temperature

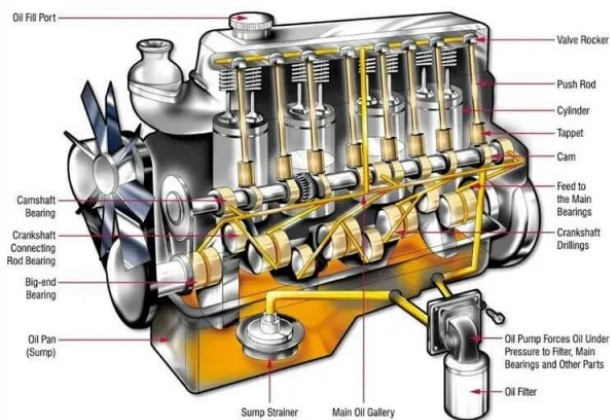
- Viscosity @ 100°C: 16.3–21.9 cSt.
- API: CJ-4 / CI-4Superior wear protection under Load Enhance
- Packaging: 10L, 20L, 205L

## API Service Categories Explained

| Category  | Description                                                              | Typical Use                                                                       |
|-----------|--------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| API CF    | Indirect-injection diesel engines.                                       | Effective control of piston deposits Older diesel engines, stationary power wear. |
| API CI-4+ | High-speed four-stroke diesels. Introduced for EGR and some SCR engines. | 2002–2006 on-highway trucks                                                       |
| API CJ-4  | Current top tier. Low SAPS for DPF/SCR after treatment.                  | Superior soot 2006 Tier 4 / Euro 5 engines handling and wear.                     |

## Generator Oils:

Codex generator oils are specifically formulated for continuous-duty power generation equipment operating in Bangladesh's demanding climate. Both gas and diesel generator formulations provide extended drain intervals, superior thermal stability, and excellent deposit control for engines that run 24/7 in prime and standby power applications.





## Product Range

**Codex Gas Generator Oil:** SAE 40 | API CF | Natural gas & biogas engines

- Viscosity @ 100°C: 12.5–16.3 cSt.
- API: CF.
- Low ash formulation for gas engines
- Packaging: 20L, 205L

**Codex Diesel Generator Oil:** SAE 15W-40 | API CI-4+ | Diesel gensets & power plants.

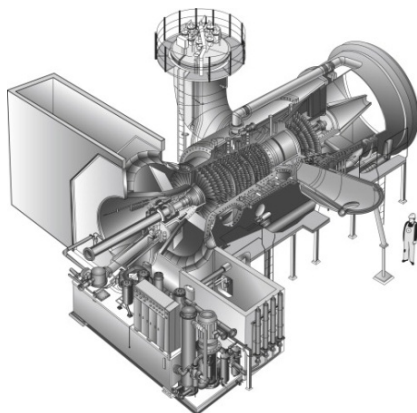
- Viscosity @ 100°C: 12.5–16.3 cSt.
- API: CI-4+.
- Superior soot handling for continuous duty.
- High TBN
- Packaging: 20L, 205L

## Typical Applications

- Prime power diesel generators for factories and hospitals
- Standby gas generators for commercial buildings
- Biogas power plants and landfill gas engines
- Telecom tower backup power systems
- Grid-connected captive power plants
- Marine auxiliary generators

## Compressor & Turbine Oils

Codex compressor and turbine oils are formulated for long life and minimal deposit formation in rotary screw, reciprocating, and steam/gas turbine applications. These oils resist oxidation and thermal breakdown under continuous high-temperature operation.





## Product Range

**Codex Compressor 46:** ISO VG 46 | Rotary screw & vane compressors.

- Viscosity @ 40°C: 46 cSt.
- Demulsifying type.
- Low carbon & varnish formation
- Up to 4,000 hours.
- Packaging: 20L, 205L.

**Codex Turbine 32:** ISO VG 32 | Steam & gas turbine lubrication.

- Viscosity @ 40°C: 32 cSt.
- Excellent oxidation stability. Superior air release properties.
- Low foaming
- Packaging: 20L, 205L

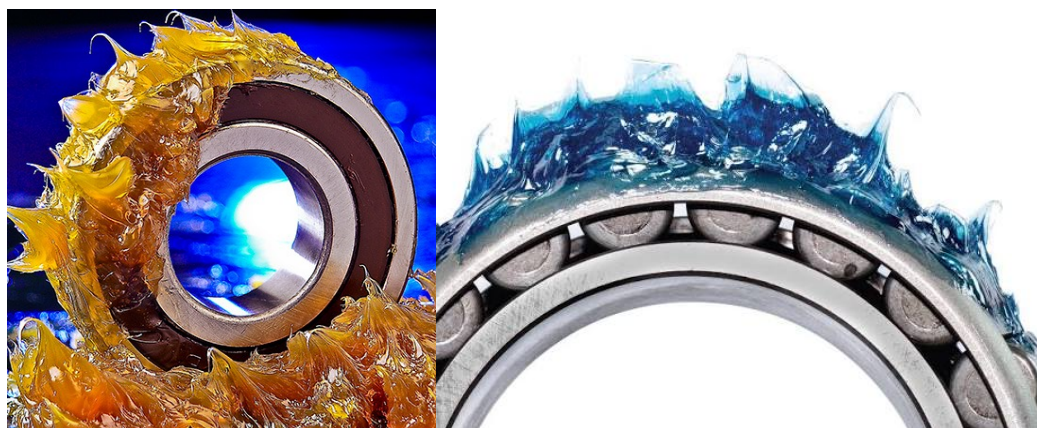
## Performance Specifications:

| Property                            | Test Method | Compressor 46 | Turbine 32 |
|-------------------------------------|-------------|---------------|------------|
| Density @ 15°C (kg/m <sup>3</sup> ) | ASTM D1298  | 860–880       | 850–870    |
| Kinematic Viscosity @ 40°C (cSt)    | ASTM D445   | 41.4–50.6     | 28.8–35.2  |
| Viscosity Index                     | ASTM D2270  | ≥100          | ≥100       |
| Flash Point, COC (°C)               | ASTM D92    | ≥200          | ≥190       |
| Air Release @ 50°C (min)            | ASTM D3427  | ≤10           | ≤5         |
| RPVOT (min)                         | ASTM D2272  | ≥500          | ≥1000      |
| Demulsibility (min)                 | ASTM D1401  | ≤15           | ≤15        |



## Industrial Greases

Codex industrial greases are lithium-based lubricating greases fortified with extreme pressure and anti-wear additives. They provide reliable lubrication for bearings, chassis points, and open gears in industrial and automotive applications.



## Product Range:

**Codex EP Grease:** NLGI 2 | Lithium | Extreme pressure.

- Thickener: Lithium 12-hydroxystearate.
- NLGI Grade: 2.
- Drop point:  $\geq 180$
- Packaging: 15kg, 180kg

**Codex WR Grease:** NLGI 2 | Water-resistant | Multi-purpose

- Thickener: Lithium complex NLGI Grade: 2. Superior water washout resistance.
- Excellent rust.
- Packaging: 15kg

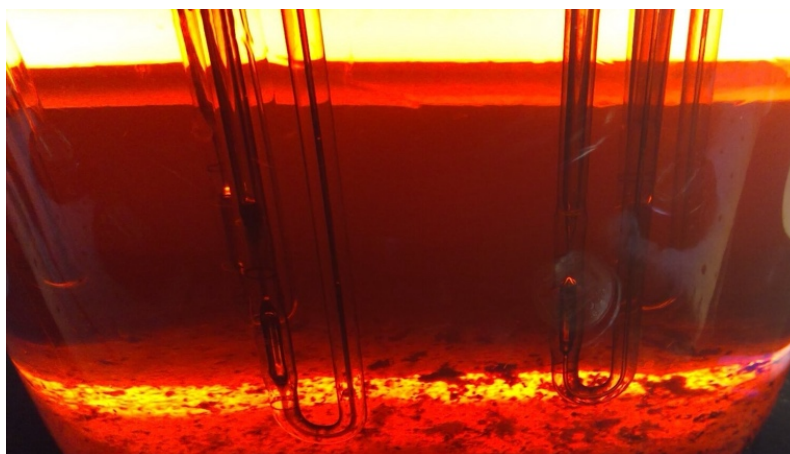


## Performance Specifications

| Property                   | Test Method | EP Grease 2 | WR Grease       |
|----------------------------|-------------|-------------|-----------------|
| NLGI Grade                 | ASTM D217   | 2           | 2               |
| Thickener Type             | —           | Lithium     | Lithium Complex |
| Penetration @ 25°C (0.1mm) | ASTM D217   | 265–295     | 265–295         |
| Drop Point (°C)            | ASTM D2265  | ≥180        | ≥260            |
| Four-ball Weld Load (kg)   | ASTM D2596  | ≥250        | ≥200            |
| Water Washout @ 79°C (%)   | ASTM D1264  | ≤10         | ≤5              |
| Operating Temperature (°C) | —           | -20 to +130 | -30 to +150     |

## Specialty Fluids

Codex specialty fluids address specific industrial requirements beyond standard lubrication including heat transfer, metalworking, and process applications where thermal stability and chemical compatibility are critical.



**Thermo Oil (Demonstration)**

## Product Range

**Codex Heat Transfer 32:** Heat transfer oil | Closed systems | Thermal stability .

- Viscosity @ 40°C: 32 cSt
- Max film temperature: 320°C Low vapor pressure at high temp.
- Packaging: 20L, 205L



**Codex Cutting Oil:** Soluble oil | Metalworking | Emulsifiable.

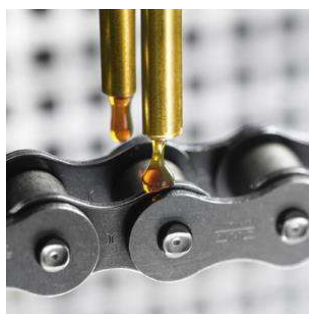
- Mix ratio: 1:10 to 1:20 with water.
- Excellent cooling & lubrication.
- Anti-mist and low-foam formulation.
- Packaging: 20L, 205L

**Codex Alexa Series Thermo Oil:** ISO VG 32/46 | High-temp heat transfer | Synthetic blend

- Viscosity @ 40°C: 32/46 cSt. Max bulk temperature: 300°C
- Excellent thermal oxidation stability
- Packaging: 20L, 205L

**Codex Alexa Series Chain Oil:** High-temp chain lubricant | Oven & conveyor chains.

- Synthetic ester base stock Operating range: up to 250°C
- Low evaporation loss
- Excellent anti-wear
- Packaging: 20L, 205L



**Chain**



**copper drawing machine**

### Typical Applications

- Heat Transfer 32: Plastic extrusion calenders, asphalt plants, chemical process heaters, die-casting temperature control units
- Cutting Oil: CNC turning and milling, drilling and tapping operations, grinding and honing, metal forming and stamping
- Alexa Thermo Oil: High-temperature process heating, reactor jacket circulation, mould temperature controllers
- Alexa Chain Oil: High-temperature conveyor chains, stenter frames, baking ovens, paint curing lines



## Metalworking & Drawing Oils:

Codex metalworking and drawing oils are engineered for precision machining, stamping, and metal forming operations. From EDM dielectric fluids to aluminum wire drawing compounds, these products ensure surface finish quality, tool life extension, and process efficiency in metal fabrication industries.

### Product Range (METALWORKING)

**Codex EDM Oil:** Dielectric fluid | Electrical discharge machining | Low viscosity.

- Viscosity @ 40°C: 2–3 cSt.
- High dielectric strength.
- Low odor & transparent.
- Excellent flushing prop
- Packaging: 20L, 205L

**Codex Punching Oil:** Stamping & punching lubricant | Sheet metal forming.

- Viscosity @ 40°C: 20–30 cSt.
- EP additive package. Excellent metal adhesion.
- Packaging: 20L, 205L

**Codex Stamping Oil:** Progressive die stamping | Deep drawing | Vanishing type available.

- Viscosity @ 40°C: 10–20 cSt
- High lubricity for deep draws.
- Excellent surface finish on draw
- Packaging: 20L, 205L

**Codex Quenching Oil:** Aluminum wire & tube drawing | All viscosities | Synthetic blend.

- Viscosity range: ISO VG 68–320
- Superior lubricity for fine wire drawing
- Excellent surface finish on draw
- Packaging: 20L, 205L

**Heat treatment oil:** Martempering & austempering | Fast quench.

- Viscosity @ 40°C: 15–25 cSt
- High flash point for safety
- Uniform cooling rate
- Low sludge & depos
- Packaging: 20L, 205L



## Alexa Aluminum Drawing Oil Grades:

| Grade             | Viscosity @ 40°C | Application                             |
|-------------------|------------------|-----------------------------------------|
| Alexa Light       | 68 cSt           | Fine wire drawing, small diameter tubes |
| Alexa Medium      | 100–150 cSt      | Medium wire & rod drawing               |
| Alexa Heavy       | 220 cSt          | Heavy rod & bar drawing, extrusion      |
| Alexa Extra-Heavy | 320 cSt          | Large diameter tubes, heavy extrusion   |

## Textile Oils:

Codex textile oils are specially formulated for the demanding environment of Bangladesh's garment and textile industry. These low-viscosity, highly refined oils provide excellent lubrication for high-speed knitting, coning, and sewing machinery while being compatible with fabric finishing processes and minimizing staining.



## Product Range

**Codex Knitting Oil:** Circular knitting machine oil | Low viscosity | Non-staining.

- Viscosity @ 40°C: 10–15 cSt
- Highly refined white mineral oil base
- Excellent oxidation stability for 24/7.
- Packaging: 20L, 205L

**Codex Coning Oil:** Yarn coning & winding oil | Anti-static | Low friction.

- Viscosity @ 40°C: 15–22 cSt
- Anti-static additive package
- Reduces yarn breakage during high-speed
- Packaging: 20L, 205L



**Codex Sewing Oil:** Industrial sewing machine oil | Needle & hook lubrication.

- Viscosity @ 40°C: 15–20 cSt.
- Prevents needle heating & thread breakage.
- Compatible with all fabric type
- Packaging: 1L, 5L, 20L

### Typical Applications

- Circular knitting machines for T-shirt and sweater production
- High-speed yarn winding and texturing machines
- Industrial lockstitch and overlock sewing lines
- Warping and sizing machine lubrication points
- Textile finishing equipment bearings and chains

## Marine Oils

Codex marine oils are formulated to meet the severe demands of marine propulsion and auxiliary systems operating in coastal and inland waterways. Our marine diesel engine oils and system lubricants provide excellent detergency, dispersancy, and acid neutralization for engines burning high-sulphur fuels.



### Product Range

**Codex Marin Oil:** SAE 40 | API CF | Marine diesel engine oil.

- Viscosity @ 100°C: 12.5–16.3 cSt. API: CF
- High TBN for acid neutralization.
- Excellent detergency
- Packaging: 20L, 205L



## Typical Applications

- Medium-speed trunk piston marine diesel engines
- Fishing vessel main and auxiliary engines
- Inland waterway cargo vessel propulsion systems
- Generator engines on marine platforms
- Deck machinery hydraulic systems (also see Hydraulic Oils range)

## Transformer & White Oils

Codex transformer and white oils serve critical electrical insulation and food-grade process applications. Our transformer oils meet international standards for dielectric strength and oxidation stability, while white oils are refined to pharmaceutical and cosmetic grade purity for food processing, pharmaceutical, and cosmetic manufacturing.

## Product Range

**Codex Transformer Oil:** Electrical insulating oil | Power & distribution transformers.

- Viscosity @ 40°C: 8–12 cSt. Dielectric strength: ≥30 kV.
- Low pour point for cold climate
- Excellent size="8"
- Packaging: 20L, 205L

**Codex White Oil:** Technical grade.

- Viscosity @ 40°C: 10–68 cSt (multiple grades).
- Colorless, odorless, tasteless INDUSTRIAL grade
- Packaging: 20L, 205L

## Typical Applications

- **Transformer Oil:** Power transformers, distribution transformers, switchgear, circuit breakers, capacitors
- **White Oil:** Food machinery lubrication (incidental contact), cosmetic base oil, plasticizer carrier, textile lubricant, pharmaceutical ointment base

## Technical Standards & Quality

Codex Oil International operates under a comprehensive quality management system aligned with ISO 9001:2015 principles. Every production batch undergoes rigorous testing in our laboratory before release.

### Testing Protocol

Each batch is tested for: viscosity @ 40°C and 100°C, viscosity index, pour point, TAN/TBN



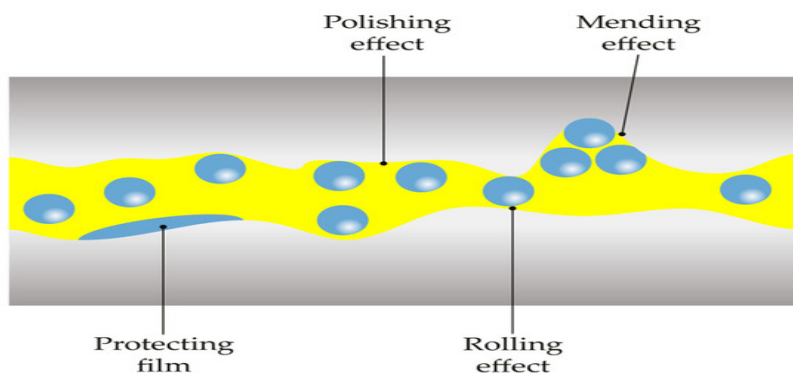
## Industry Standards Compliance

| Standard      | Description                                                  | Codex Compliance |
|---------------|--------------------------------------------------------------|------------------|
| ISO 9001:2015 | Quality management systems                                   | Certified        |
| ISO 3448      | Industrial liquid lubricants — ISO viscosity classification  | Full range       |
| ASTM D445     | Kinematic viscosity of transparent and opaque liquids        | All products     |
| ASTM D2270    | Standard practice for calculating viscosity index            | All products     |
| ASTM D92      | Flash and fire points by Cleveland open cup                  | All products     |
| ASTM D97      | Pour point of petroleum products                             | All products     |
| API 1509      | Engine oil licensing and certification system                | Engine oils      |
| SAE J306      | Automotive gear lubricant viscosity classification           | Gear oils        |
| DIN 51524     | Pressure fluids — hydraulic oils                             | Hydraulic range  |
| IEC 60296     | Fluids for electro technical applications — Transformer oils | Transformer oil  |
| ASTM D3487    | Mineral insulating oil in electrical equipment               | Transformer oil  |

## Nanotechnology Additive Platform:

Codex industrial lubricants incorporate advanced nanotechnology additives that form protective tribofilms on metal surfaces. These solid-state lubricant particles (typically ceramic or metal-oxide based, sized 20–100 nm) provide:

- **Boundary lubrication enhancement:** Reduced friction under high-load, low-speed conditions where hydrodynamic films break down
- **Surface repair mechanism:** Nanoparticles fill micro-asperities and wear scars, restoring surface smoothness
- **Extreme pressure performance:** Enhanced load-carrying capacity beyond conventional EP additives
- **Thermal conductivity improvement:** Better heat dissipation from friction zones



## Packaging & Ordering

### Standard Packaging:

| Package          | Volume        | Typical Use                              | Handling                |
|------------------|---------------|------------------------------------------|-------------------------|
| Retail bottle    | 1L            | Automotive top-up, small machinery       | Hand carry              |
| Jerry can        | 3L / 5L / 10L | Workshop dispensing, fleet maintenance   | Hand carry / trolley    |
| Pail / Jerry can | 20L           | Industrial maintenance, mid-volume users | Trolley / pallet        |
| Drum             | 205L          | High-volume industrial consumers         | Drum trolley / forklift |
| Grease keg       | 15kg          | Grease gun filling, bearing service      | Hand carry              |
| Grease drum      | 180kg         | High-volume grease consumers             | Drum pump / forklift    |

### Private Label & Bulk Supply

Codex Oil International offers private-label manufacturing services for qualified distributors and OEMs. Minimum order quantities and lead times vary by product category. Contact our sales team for a detailed commercial proposal.

**Storage Recommendations:** Store lubricants in a cool, dry place away from direct sunlight. Ideal storage temperature is 5–35°C.



## Contact Information

| Head Office                                                                                      | Telephone & Email                                                                     |
|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Codex Oil International 1219/11/12,<br>C/H Palace, South Pirerbag, Mirpur,<br>Dhaka, Bangladesh. | <b>Hotline:</b> +8801718717601,<br>+8801303616299<br><b>Email:</b> info@codexlube.com |

| Sales Inquiry                                            | Technical Support                                                                     |
|----------------------------------------------------------|---------------------------------------------------------------------------------------|
| For product quotations, bulk pricing,<br>and distributor | Please contact our sales team during<br>business hours up to sat-9am Thursday<br>5pm. |