

Product Guide



# HP LUBRICANTS



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# HP LUBRICANTS

Automotive  
Grades

Industrial  
Grades

Industrial  
Specialities

Greases

## Product Guide



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# Product Guide

## HP LUBRICANTS



Automotive Grades

Industrial Grades

Industrial Specialities

Greases

Engine Oils

Gear Oils

Transmission Oils

Auto Specialities

Defence Grades

Diesel Engine Application

Natural Gas Engine Application

Petrol Engine Application

First Fill Engine Application

Hylube HDX MG 20W40

HP Laal Ghoda 20W40

HP Pumpset Oil (LG)  
20W 40

Hylube X3 10W 30,40,50

Hylube X3 10W 20

HP HDX Plus 20W40

Hylube Milcy 30,40,50

HP Milcy Super 20W40

Hylube Extra 20W 40

Hylube CDKC 20W 40

HP L.G Tractor Oil 40

Hy. Supertrak 20W 40

HP Engine Tonic

Hylube SHP 15W40

HP Rail Road Oil 817M

Hylube MTU 40

HP Milcy Power 15W40

HP Rail Road Oil 813M

HP Rail Road Oil 613

HP Rail Road Oil 713

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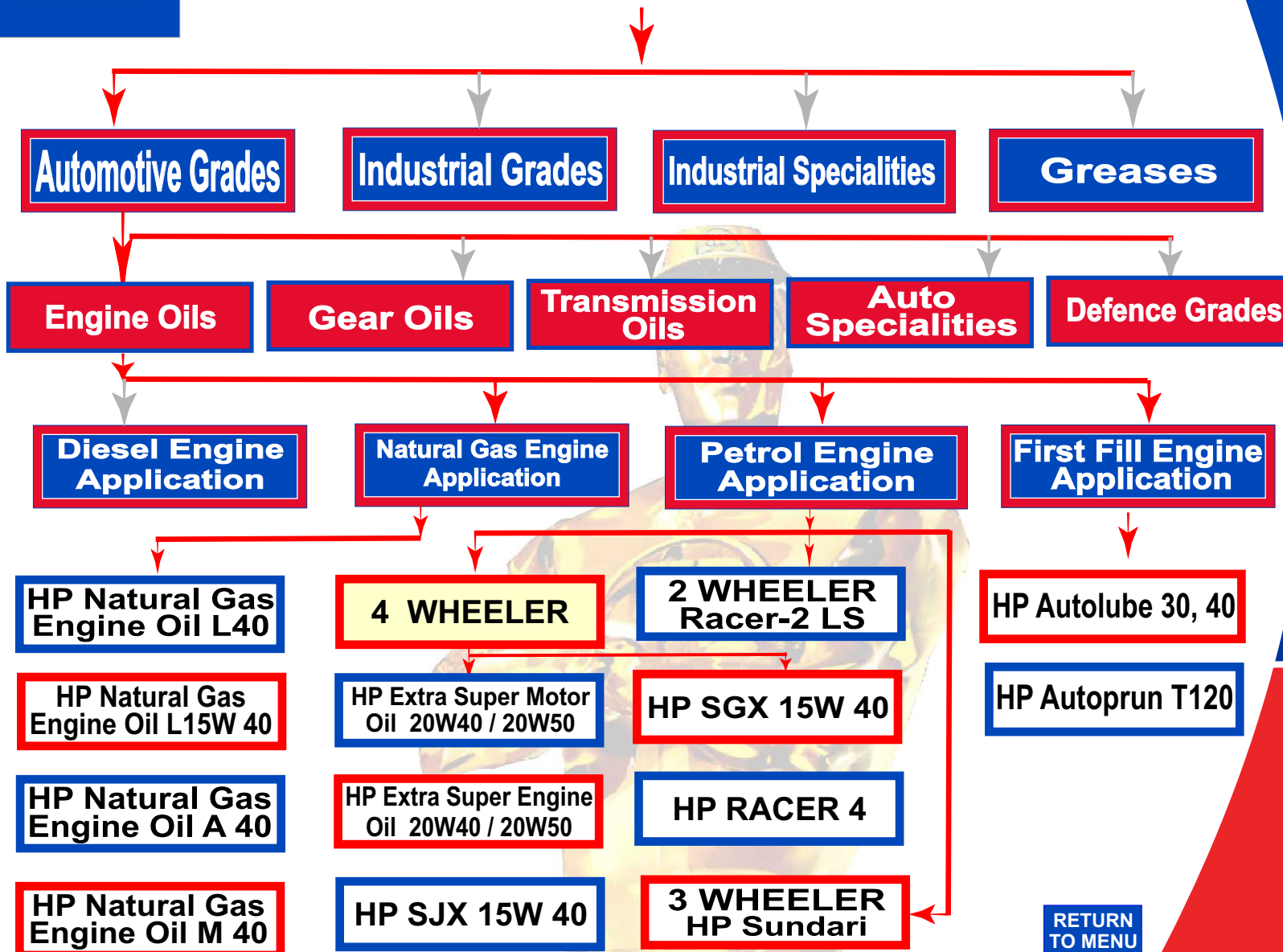


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Automotive Grades

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Defence Grades

HP Gear Oil EP 80W, 90,140

HP L.G Gear Oil EP 90

HP Gear Oil EP 80W-90

HP Gear Oil EP 75W-90

HP Gear Oil XP 80W, 90,140

HP Gear Oil XP 85W 140

HP Gear Oil XP 80W-90

HP ATF DEX II

HP ATF

HP Powerglide C410/430

HP Powerglide C310/330

HP Supertran

HP Thanda Raja

HP Koolgard

HP Koolgard P

HP Radiator Protector

HP S.D.Brake Fluid DOT3

HP S.D.Brake Fluid DOT4

HP Powerfluid TH 46

HP Powerfluid LTP-100

HP Shock Absorber Oil

HP Shock Absorber Oil AW

HP Shock Absorber Oil TELE

HP Shock Absorber Oil GB

HP Powerfluid P100

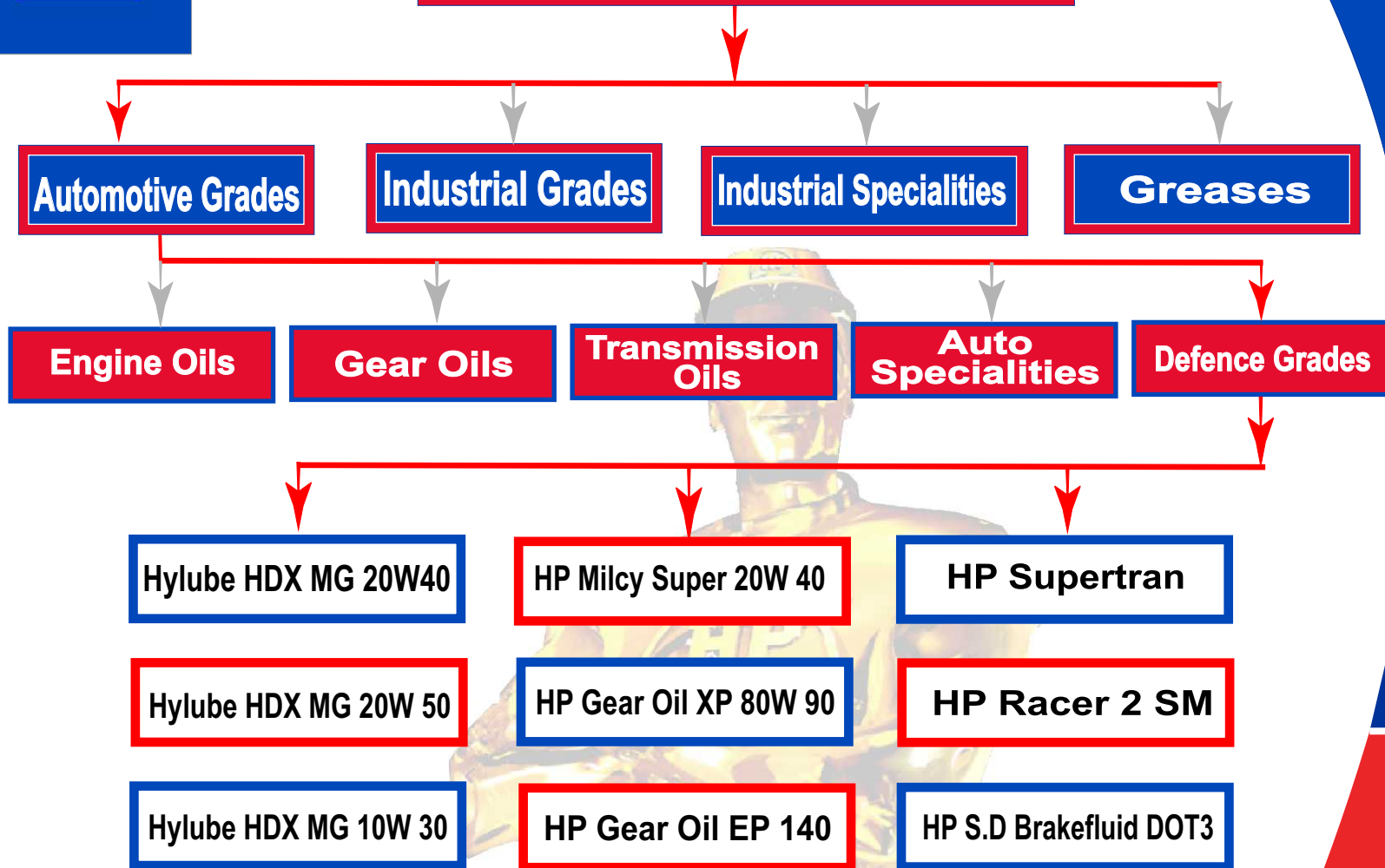


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# HP LUBRICANTS

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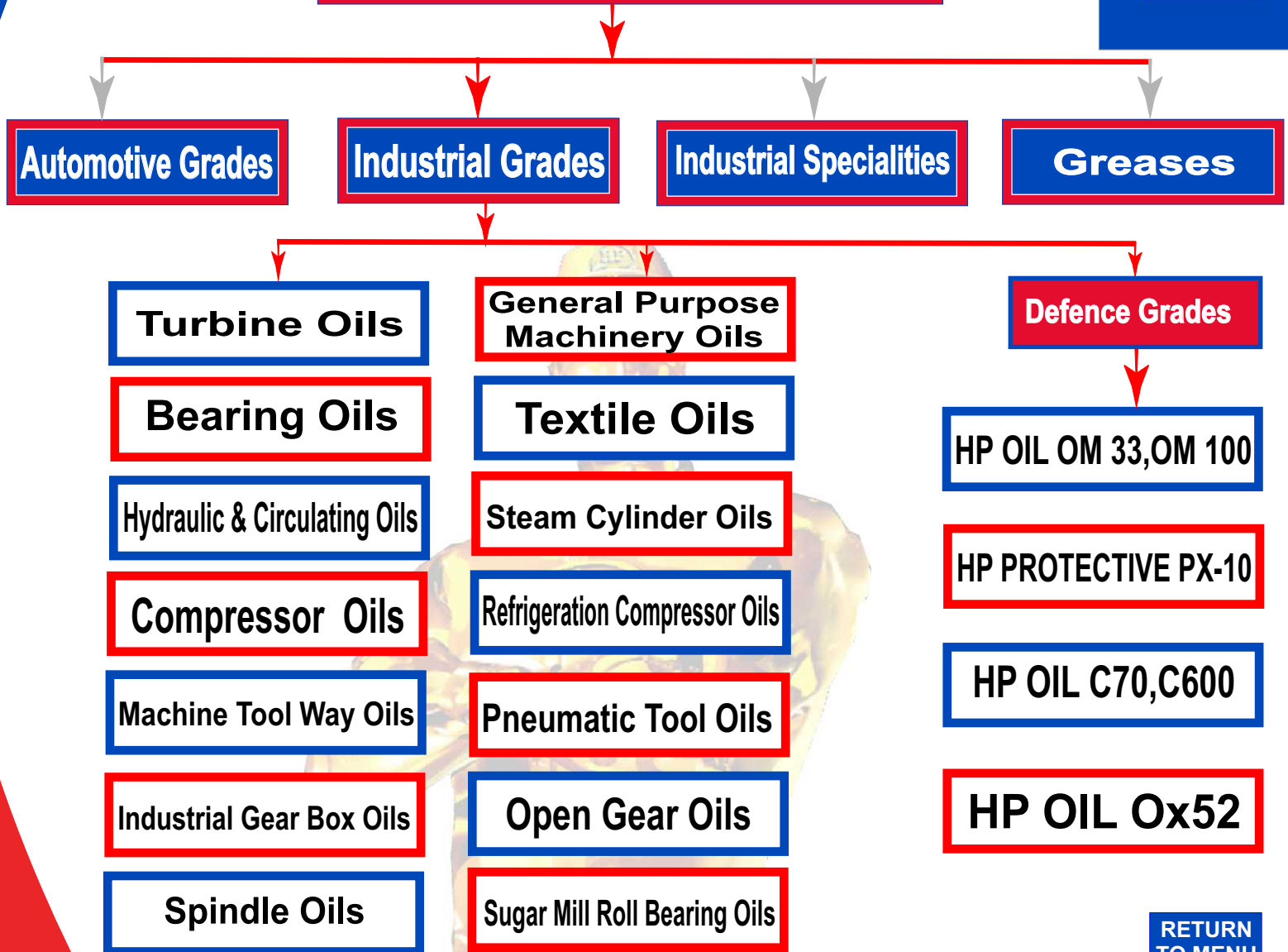
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# HP LUBRICANTS

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Industrial Specialities

Greases

Metal Cutting Fluids

Metal Rolling Oils

Quenching Oils

Rubber Process Oils

Rust Preventives

Metal Drawing Compounds

Heat Transfer Fluids

Special Applications

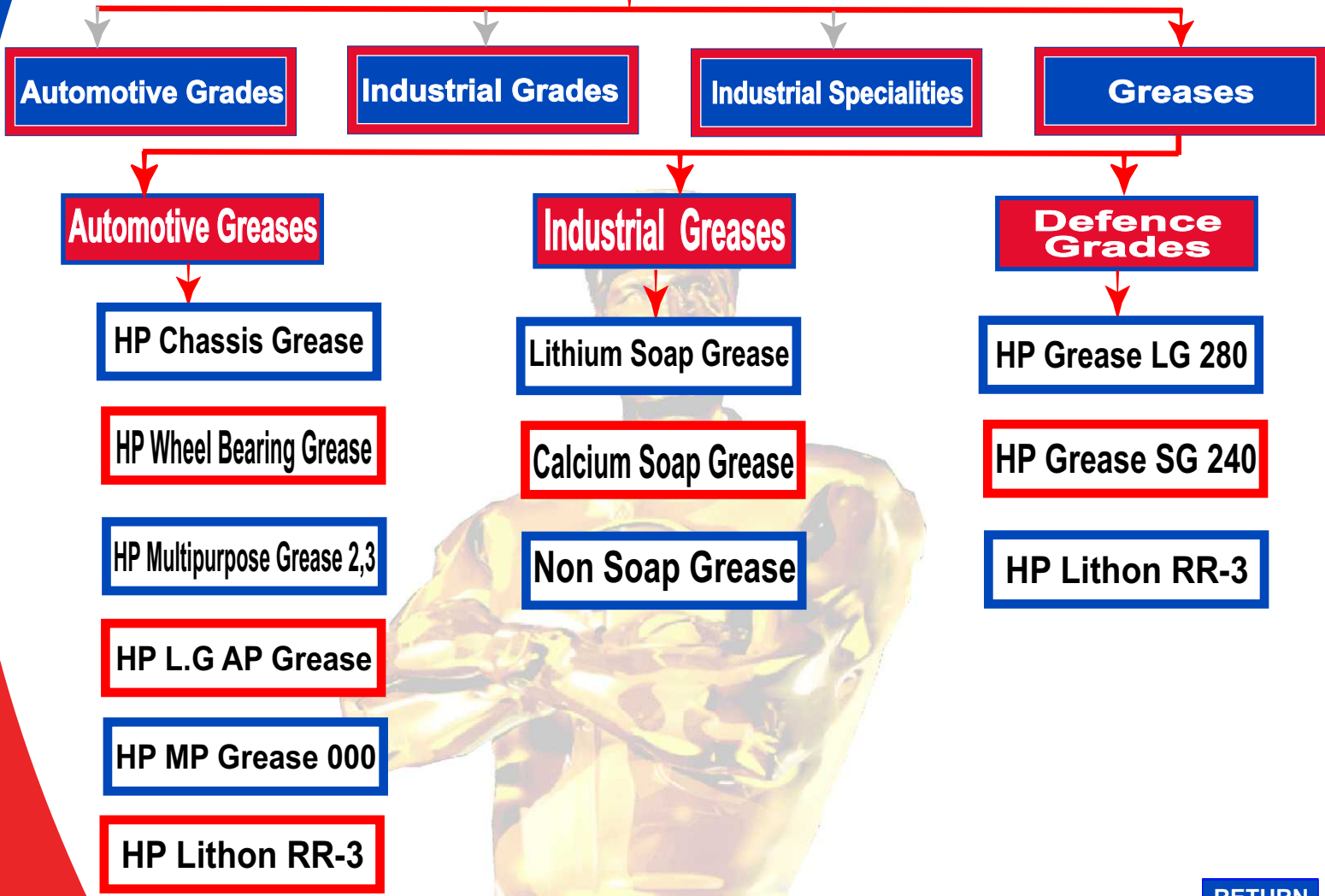
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# Product Guide

## HP LUBRICANTS



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# HP Lubricants - Product Data Sheet



## HYLUBE HDX MULTIGRADE 20W40

- HYLUBE HDX MG 20 W 40 IS A MULTIGRADE ENGINE OIL
- MEETS API CC/SC , US MILITARY MIL-L-2104B, E-PL1/E-DL1 OF IS:13656:1993 SPECIFICATION
- RECOMMENDED FOR USE IN ALL TYPES OF DIESEL & PETROL ENGINES
  - EXCELLENT ENGINE PROTECTION UNDER HIGH TEMPERATURES
  - GOOD ENGINE START UP UNDER COLD CONDITIONS
  - BETTER ALL-ROUND PERFORMANCE.

<b>KINEMATIC VISCOSITY cSt @ 100C</b>	<b>13.5-16</b>
<b>VISCOSITY INDEX,MIN</b>	<b>110</b>
<b>FLASH POINT, (COC) C,MIN</b>	<b>200</b>
<b>POUR POINT, C , MAX</b>	<b>-21</b>
<b>SULPHATED ASH,%WT,MAX</b>	<b>0.8</b>
<b>TBN ,mgKOH/g,MIN</b>	<b>4.3</b>
<b>COLOUR</b>	<b>RED</b>

### APPROVED BY:

- M/s SWARAJ MAZDA
- M/s PUNJAB TRACTORS
- M/s HMT
- M/s EICHER
- M/s ESCORTS
- M/s BRITANNIA ENGG.LTD.
- M/s GUJRAT FORGIN

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# HP Lubricants - Product Data Sheet



## HP LAAL GHODA 20W 40

- HP LAAL GHODA 20W 40 IS A MULTIGRADE DIESEL ENGINE OIL
- MEETS API CC/SC , US MILITARY MIL-L-2104B, E-PL1/ E-DL1 OF IS:13656:1993 SPECIFICATION
- RECOMMENDED FOR USE IN ALL TYPES OF DIESEL ENGINES IN TRUCK , BUS , MUV, TAXI,TRACTOR , PUMPSET & DG SETS
  - ALL ROUND PERFORMANCE
  - ENGINE CLEANLINESS
  - EFFICIENT LUBRICATION

<b>KINEMATIC VISCOSITY cSt @ 100C</b>	<b>13.5-16</b>
<b>VISCOSITY INDEX,MIN</b>	<b>110</b>
<b>FLASH POINT, (COC) C,MIN</b>	<b>200</b>
<b>POUR POINT, C , MAX</b>	<b>-18</b>
<b>SULPHATED ASH,%WT,MAX</b>	<b>0.8</b>
<b>TBN ,mgKOH/g,MIN</b>	<b>4.4</b>
<b>COLOUR</b>	<b>RED</b>

**PRODUCT IS IN ECONOMY RANGE**

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# HP Lubricants - Product Data Sheet



## HYLUBE X3 10W 30,40,50

- HYLUBE X3 10W 30,40,50 ARE MONOGRADE ENGINE OIL FOR SEVERE DUTY DIESEL ENGINE SERVICES
- MEETS API CD , US MILITARY MIL-L-45199B,E-DL2 OF IS:13656:1993 SPECIFICATION
- RECOMMENDED FOR USE IN ALLTYPES OF DIESEL ENGINES INCLUDING EARTH MOVING & CONSTRUCTION EQUIPMENTS . X3 10W GRADE CAN ALSO BE USED AS A HYDRAULIC FLUID .X3 40 GRADE HAS BEEN SPECIALLY DESIGNED FOR ENGINES OPERATING ON FUELS HAVING HIGHER SULPHUR CONTENT.
  - EXCELLENT THERMAL & OXIDATION STABILITY
  - EXCELLENT PERFORMANCE UNDER SEVERE CONDITIONS.

	10W	30	40	50
<b>KINEMATIC VISCOSITY cSt @ 100C</b>	<b>5MIN</b>	<b>10-12</b>	<b>13-15</b>	<b>17-20</b>
<b>VISCOSITY INDEX,MIN</b>	<b>100</b>	<b>95</b>	<b>90</b>	<b>90</b>
<b>FLASH POINT, (COC) C,MIN</b>	<b>190</b>	<b>215</b>	<b>215</b>	<b>220</b>
<b>POUR POINT, C , MAX</b>	<b>-27</b>	<b>-6</b>	<b>-6</b>	<b>-6</b>
<b>SULPHATED ASH,%WT,MAX</b>	<b>1.3</b>	<b>1.3</b>	<b>1.8</b>	<b>1.3</b>
<b>TBN ,mgKOH/g,MIN</b>	<b>9</b>	<b>9</b>	<b>13</b>	<b>9</b>

### APPROVED BY:

- M/s VST TILLERS
- M/s BEML
- M/s FUJIPRESS TO RETURN

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# HP Lubricants - Product Data Sheet



## HYLUBE MTU 40

- HYLUBE MTU 40 IS ENGINE OIL FOR MTU ENGINES
- MEETS API CF&ACEA E1-96
- APPROVED AGAINST MTU 5044 ENGINE OIL (TYPE-1) SPECIFICATIONS
- SPECIALLY DEVELOPED FOR USE AS ENGINE OIL IN MTU ENGINES
  - EXCEPTIONAL THERMAL&OXIDATION STABILITY
  - GOOD ELASTOMER COMPATIBILITY
  - GOOD LOAD CARRYING CAPACITY

<b>KINEMATIC VISCOSITY cst @ 100C</b>	<b>14</b>
<b>VISCOSITY INDEX,MIN</b>	<b>100</b>
<b>FLASH POINT, (COC) C,(Typ)</b>	<b>234</b>
<b>POUR POINT, C , (Typ)</b>	<b>-3</b>
<b>SULPHATED ASH,%WT</b>	<b>1.0-2.0</b>
<b>TBN ,mgKOH/g,MIN</b>	<b>8</b>

### APPROVED BY:

- M/s MTU,GERMANY

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# HP Lubricants - Product Data Sheet



## HYLUBE X3 10W-20

- HYLUBE X3 10W-20 IS A CRANKCASE OIL FOR TRACTOR ENGINES
- MEETS API CD , US MILITARY MIL-L-45199B,E-DL2 OF IS:13656:1993 SPECIFICATION
- SPECIFICALLY DEVELOPED FOR M/s ESCORTS FOR TRACTOR MODELS FITTED WITH ENGINE FROM AVL,AUSTRIA
  - EXCEPTIONAL THERMAL&OXIDATION STABILITY
  - OUTSTANDING VISCOSITY RELATED PERFORMANCE
  - GOOD ALKALINE RESERVE

<b>KINEMATIC VISCOSITY cst @ 100C</b>	<b>6.0-8.0</b>
<b>VISCOSITY INDEX,MIN</b>	<b>100</b>
<b>FLASH POINT, (COC) C,MIN</b>	<b>190</b>
<b>POUR POINT, C , MAX</b>	<b>-27</b>
<b>SULPHATED ASH,%WT,MAX</b>	<b>1.46</b>
<b>TBN ,mgKOH/g,MIN</b>	<b>9</b>

### APPROVED BY:

- M/sESCORTS

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# HP Lubricants - Product Data Sheet



## HP HDX PLUS 20 W 40

- **HP HDX PLUS 20W40 IS SPECIALLY FORMULATED MULTIGRADE DIESEL ENGINE OIL FOR TRUCKS & BUSES FOR EXCELLENT PERFORMANCE IN GHAT SECTION**
- **EXCEEDS API CD REQUIREMENT**
- **RECOMMENDED FOR ALL TYPES OF DIESEL VEHICLES**
  - **EXCELLENT PERFORMANCE EVEN WITH HEAVY LOADS**
  - **MADE FROM GENUINE BASE OILS**
  - **ENSURES STABLE OIL PRESSURE**
  - **100% LONGER DRAIN PERIOD**
  - **PROMOTES EASY STARTING**
  - **IMPROVES FUEL ECONOMY**
  - **KEEPS THE ENGINE CLEAN**
  - **SUITABLE FOR ALL CLIMATIC CONDITINS**

<b>KINEMATIC VISCOSITY est @ 100C</b>	<b>14-16</b>
<b>VISCOSITY INDEX,MIN</b>	<b>110</b>
<b>FLASH POINT, (COC) C,MIN</b>	<b>200</b>
<b>POUR POINT, C , MAX</b>	<b>-21</b>
<b>SULPHATED ASH,% WT,MAX</b>	<b>1.51</b>
<b>TBN ,mgKOH/g,MIN</b>	<b>9.3</b>

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# HP Lubricants - Product Data Sheet



## HP ENGINE TONIC

- HP ENGINE TONIC IS SPECIALLY FORMULATED PRODUCT FOR ENGINE LONGEVITY
- DEVELOPED IN SYNERGY WITH **HDX PLUS 20W-40**
- RECOMMENDED FOR USE IN CRANKCASE WITH FRESH CHARGE OF HP HDX PLUS 20W-40
  - KEEPS THE ENGINE HEALTHY
  - PROVIDES EXTRA ENGINE PROTECTION
  - GIVES EXTRA MILEAGE
  - SUPERIOR PERFORMANCE ON GHAT & DIFFICULT TERRAINS.

<b>KINEMATIC VISCOSITY cst @ 100C</b>	<b>21</b>
<b>FLASH POINT, (COC) C,MIN</b>	<b>210</b>
<b>SULPHATED ASH,%WT,MAX</b>	<b>1.65</b>

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# HP Lubricants - Product Data Sheet



## HYLUBE MILCY 30,40,50

- HYLUBE MILCY 30,40,50 ARE SUPERIOR QUALITY, HEAVY DUTY DIESEL ENGINE LUBRICATING OILS
- MEETS API CD/SF , MIL-L-2104C,E-DL 3/E-PL 2 OF IS:13656:1993 AND MACK T-7 ENGINE TEST REQUIREMENTS.
- RECOMMENDED FOR HEAVY COMMERCIAL VEHICLES, LIGHT COMMERCIAL VEHICLES,TRACTORS, DIESEL PASSENGER CARS AND JEEPS
  - EXTENDED TBN QUALITY RESERVES
  - PREVENTS OIL THICKENING AND ENHANCES OIL LIFE
  - POSSESS ABSOLUTE CONTROL OF CORROSIVE WEAR
  - EXCEPTIONAL THERMAL&OXIDATION STABILITY
  - PROLONGED ENGINE LIFE & ENHANCED DRAIN PERIOD
  - OUTSTANDING ENGINE CLEANLINESS

	30	40	50
<b>KINEMATIC VISCOSITY cst @ 100C</b>	<b>10.3-11.5</b>	<b>13.5-15.2</b>	<b>17.5-19.2</b>
<b>VISCOSITY INDEX,MIN</b>	<b>95</b>	<b>90</b>	<b>90</b>
<b>FLASH POINT, (COC) C,MIN</b>	<b>215</b>	<b>215</b>	<b>220</b>
<b>POUR POINT, C , MAX</b>	<b>-6</b>	<b>-6</b>	<b>-6</b>
<b>SULPHATED ASH,% WT,MAX</b>	<b>1.6</b>	<b>1.6</b>	<b>1.6</b>
<b>TBN ,mgKOH/g,MIN</b>	<b>9.84</b>	<b>9.84</b>	<b>9.84</b>

### APPROVED BY:

- M/s FUJI, M/s ECEL, M/s GREAVES, M/s EICHER, M/sGUJARAT FORGINGS
- M/s TAFE, M/s ASHOK LEYLAND, M/s BAJAJ TEMPO, M/sVOLTAS LTD.
- M/s HMT, M/s VST TILLERS, M/s PUNJAB TRACTORS, M/sTELCO

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# HP Lubricants - Product Data Sheet



## HYLUBE MILCY SUPER 20W 40

- HULUBE MILCY SUPER 20W 40 IS A PREMIUM MULTIGRADE ENGINE OIL DESIGNED TO MEET THE DEMANDING LUBRICATION REQUIREMENTS OF ALL MODERN DIESEL ENGINES.
- MEETS API CD/SF, MIL-L-2104C,E-DL 3/E-PL 2 OF IS:13656:1993 AND MACK T-7 ENGINE TEST REQUIREMENTS.
- RECOMMENDED FOR USE IN COMMERCIAL VEHICLES,TRACTORS,DIESEL PASSENGER CARS AND JEEPS OF LEADING MANUFACTURERS
  - EXTENDED TBN QUALITY RESERVES
  - PREVENTS OIL THICKENING AND ENHANCES OIL LIFE
  - POSSESS ABSOLUTE CONTROL OF CORROSIVE WEAR
  - EXCEPTIONAL THERMAL&OXIDATION STABILITY
  - PROLONGED ENGINE LIFE & ENHANCED DRAIN PERIOD
  - OUTSTANDING ENGINE CLEANLINESS

<b>KINEMATIC VISCOSITY est @ 100C</b>	<b>14-16</b>
<b>VISCOSITY INDEX,MIN</b>	<b>110</b>
<b>FLASH POINT, (COC) C,MIN</b>	<b>200</b>
<b>POUR POINT, C , MAX</b>	<b>-18</b>
<b>SULPHATED ASH,%WT,MAX</b>	<b>1.66</b>
<b>TBN ,mgKOH/g,MIN</b>	<b>9.92</b>

### APPROVED BY:

- M/s SIMPSON      M/s ESCORTS      M/s DAEWOO      M/s HMT
- M/s GUJARAT FORGINGS      M/s INGERSOLL RAND
- M/s VOLTAS

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# HP Lubricants - Product Data Sheet



## HYLUBE EXTRA 20W 40

- HULUBE EXTRA 20W 40 IS A PREMIUM MULTIGRADE ENGINE OIL DESIGNED TO MEET THE DEMANDING LUBRICATION REQUIREMENTS OF ALL MODERN DIESEL ENGINES.
- MEETS API CD/SF, MIL-L-2104C,E-DL 3/E-PL 2 OF IS:13656:1993 AND MACK T-7 ENGINE TEST REQUIREMENTS.
- RECOMMENDED FOR ALL DIESEL ENGINES.
  - PREVENTS OIL THICKENING AND ENHANCES OIL LIFE
  - POSSESS ABSOLUTE CONTROL OF CORROSIVE WEAR
  - EXCELLENT THERMAL &OXIDATION STABILITY
  - PROLONGED ENGINE LIFE & ENHANCED DRAIN PERIOD

<b>KINEMATIC VISCOSITY cst @ 100C</b>	<b>14-15</b>
<b>VISCOSITY INDEX,MIN</b>	<b>110</b>
<b>FLASH POINT, (COC) C,MIN</b>	<b>200</b>
<b>POUR POINT, C , MAX</b>	<b>-21</b>
<b>SULPHATED ASH,%WT,MAX</b>	<b>1.51</b>
<b>TBN ,mgKOH/g,MIN</b>	<b>9.3</b>

### APPROVED BY:

- M/s ASHOKLEYLAND, M/s BEML
- M/s TAFE , M/s KCL
- M/s HM

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# HP Lubricants - Product Data Sheet



## HYLUBE CDKC 20W 40

- HULUBE CDKC 20W 40 IS A MULTIGRADE ENGINE OIL OF OUTSTANDING PERFORMANCE SPECIALLY DEVELOPED FOR KIRLOSKAR CUMMINS
- MEETS API CD, MIL-L-45199B,E-DL 2 OF IS:13656:1993.
- RECOMMENDED FOR USE IN ALL TYPES OF DIESEL ENGINES
  - EXCEPTIONAL THERMAL & OXIDATION STABILITY
  - OUTSTANDING VISCOSITY RELATED PERFORMANCE
  - PROLONGED ENGINE LIFE

<b>KINEMATIC VISCOSITY cst @ 100C</b>	<b>14-15</b>
<b>VISCOSITY INDEX,MIN</b>	<b>110</b>
<b>FLASH POINT, (COC) C,MIN</b>	<b>200</b>
<b>POUR POINT, C , MAX</b>	<b>-21</b>
<b>SULPHATED ASH,% WT,MAX</b>	<b>1.46</b>
<b>TBN ,mgKOH/g,MIN</b>	<b>9</b>

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# HP Lubricants - Product Data Sheet



## HP MILCY POWER 15W40

- HP MILCY POWER 15W-40 IS PREMIUM MULTIGRADE DIESEL ENGINE OIL.
- HP MILCY POWER HAS BEEN ACREDITED WITH API CF-4 DONUT BY API. IT ALSO MEETS MB 228.1, CCMC D-4/G-4/PD-2, MIL-L-2104E & ALLISON C-4
- RECOMMENDED FOR ALL NATURALLY ASPIRATED AS WELL AS TURBOCHARGED DIESEL ENGINES IN COMMERCIAL VEHICLES, UTILITY VEHICLES , CARS & JEEPS, EARTH MOVING & CONSTRUCTION EQUIPMENT & DG STES
  - LONG DARIN & PROLONGED ENGINE LIFE
  - EXTENDED TBN QUALITY RESERVE
  - REDUCED OIL CONSUMPTION
  - EXCELLENT SOOT & SLUDGE CONTROL
  - PROLONGED ENGINE LIFE

<b>KINEMATIC VISCOSITY cst @ 100C</b>	<b>14-15.2</b>
<b>VISCOSITY INDEX,MIN</b>	<b>120</b>
<b>FLASH POINT, (COC) C,MIN</b>	<b>190</b>
<b>POUR POINT, C , MAX</b>	<b>-21</b>
<b>SULPHATED ASH,%WT,MAX</b>	<b>1.52</b>
<b>TBN ,mgKOH/g,MIN</b>	<b>9</b>

### APPROVED BY:

- M/s TELCO M/s KCL M/s BHEL M/s HINDUTAN MOTORS RDSO
- M/s BEML M/s SIMPSON M/s ASHOK LEYLAND



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# HP Lubricants - Product Data Sheet



## HYLUBE SHP 15W 40

- HYLUBE SHP 15W 40 IS A PREMIUM QUALITY “HIGH PERFORMANCE DIESEL ENGINE OIL”
- MEETS MB 228.3, VOLVO VDS2 & E-DL4 OF IS:13656-1993 SPECIFICATIONS
- RECOMMENDED FOR USE IN ALL NEW GENERATION DIESEL ENGINES.
  - EXCEPTIONAL THERMAL & OXIDATIONSTABILITY
  - OUTSTANDING VISCOSITY RELATED PERFORMANCE
  - LONG DRAIN PERIODS

✚ HYLUBE SHP 15W-40 HAS SUCCESSFULLY COMPLETED 45,000KMS DRAIN PERIODS AT LEADING STU'S

<b>KINEMATIC VISCOSITY cst @ 100C</b>	<b>14-16</b>
<b>VISCOSITY INDEX,MIN</b>	<b>125</b>
<b>FLASH POINT, (COC) C,MIN</b>	<b>200</b>
<b>POUR POINT, C , MAX</b>	<b>-24</b>
<b>TBN ,mgKOH/g,MIN</b>	<b>13</b>

### APPROVED BY:

- M/s MERCEDES BENZ, GERMANY
- M/s VOLVO, SWEDEN
- M/s SAME GREAVES

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# HP Lubricants - Product Data Sheet



## HP EXTRA SUPER MOTOR OIL 20W-40/20W-50

- HP EXTRA SUPER MOTOR OILS ARE RED COLOUR SUPERIOR QUALITY MULTIGRADE ENGINE OILS FOR CARS MADE FROM HIGH QUALITY BASE STOCKS AND ADDITIVES
- MEETS API SF/CC, MIL-L-46152B & E-PL2/E-DL 1 OF IS:13656:1993
- ENGINE OIL FOR ALL PASSENGER CARS RUNNING ON PETROL
  - OUTSTANDING ENGINE CLEANLINESS
  - EXCELLENT OXIDATION STABILITY
  - IMPROVED WEAR PROTECTION & EXTENDED ENGINE LIFE
  - IMPROVED FUEL ECONOMY
  - COMPATIBLE WITH CATALYTIC CONVERTER

	20W 40	20W 50
<b>KINEMATIC VISCOSITY <i>est</i> @ 100C</b>	<b>14-16</b>	<b>18-20</b>
<b>VISCOSITY INDEX,MIN</b>	<b>110</b>	<b>118</b>
<b>FLASH POINT, (COC) C,MIN</b>	<b>200</b>	<b>200</b>
<b>POUR POINT, C , MAX</b>	<b>-21</b>	<b>-21</b>
<b>SULPHATED ASH,% WT,MAX</b>	<b>1</b>	<b>1</b>
<b>TBN ,mgKOH/g,MIN</b>	<b>5.4</b>	<b>5.4</b>
<b>COLOUR</b>	<b>RED</b>	<b>RED</b>

### APPROVED BY:

- M/s MARUTI UDYOG
- M/s HINDUSTAN MOTORS
- M/s TELCO

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# HP Lubricants - Product Data Sheet



## HP SUPER ENGINE OIL MG 20W-40/20W-50

- HP SUPER ENGINE OILS ARE MULTIGRADE ENGINE OILS USED FOR CARS
- MEETS API CC/SC, US MILITARY MIL-L-2104B & E-PL 1/ E-DL 1 OF IS:13656:1993 SPECIFICATIONS
- RECOMMENDED FOR USE IN ALL TYPES OF DIESEL & PETROL ENGINES.
  - EXCELLENT ENGINE PROTECTION UNDER HIGH TEMPERATURE
  - GOOD ENGINE START UP UNDER COLD CONDITIONS
  - BETTER ALL-ROUND PERFORMANCE

	20W 40	20W 50
<b>KINEMATIC VISCOSITY <i>est</i> @ 100C</b>	<b>14-16</b>	<b>18-20</b>
<b>VISCOSITY INDEX,MIN</b>	<b>110</b>	<b>118</b>
<b>FLASH POINT, (COC) C,MIN</b>	<b>200</b>	<b>200</b>
<b>POUR POINT, C , MAX</b>	<b>-21</b>	<b>-21</b>
<b>SULPHATED ASH,% WT,MAX</b>	<b>0.72</b>	<b>0.72</b>
<b>TBN ,mgKOH/g,MIN</b>	<b>4.4</b>	<b>4.4</b>
<b>COLOUR</b>	<b>RED</b>	<b>RED</b>

**PRESS TO  
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# HP Lubricants - Product Data Sheet



## HP SJX 15W 40

- **HP SJX 15W 40 IS NEW GENERATION ENGINE OILS MEETING WOLD'S HIGHEST PERFORMANCE LEVELS IN GASOLINE ENGINE OILS**
- **HP SJX 15W - 40 HAS BEEN ACCREDITATED WITH APISJ/CF DONUT BY API**
- **RECOMMENDED AS ENGINE OIL FOR ALL NEW GENERATION PASSENGER CARS**
  - **OUTSTANDING ENGINE CLEANLINESS & ENHANCED ENGINE LONGEVITY**
  - **EXCELLENT COLD STARTING CAPABILITIES**
  - **LOWER ENGINE OIL CONSUMPTION & IMPROVED FUEL ECONOMY**
  - **COMPATIBLE WITH CATALYTIC CONVERTER**

<b>KINEMATIC VISCOSITY cst @ 100C</b>	<b>14-16</b>
<b>VISCOSITY INDEX,MIN</b>	<b>120</b>
<b>FLASH POINT, (COC) C,MIN</b>	<b>200</b>
<b>POUR POINT, C , MAX</b>	<b>-27</b>
<b>SULPHATED ASH,%WT,MAX</b>	<b>1.32</b>
<b>TBN ,mgKOH/g,MIN</b>	<b>8</b>



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# HP Lubricants - Product Data Sheet



## HP SGX 15W-40

- HP SGX 15W 40 IS A PREMIUM QUALITY MULTIGRADE ENGINE OIL WHICH PROVIDES OUTSTANDING PERFORMANCE IN ALL PETROL ENGINE PASSENGER CARS.
- MEETS API SG/CD, MIL-L-46152D & E-PL 3/ E-DL 2 OF IS:13656:1993
- RECOMMENDED AS ENGINE OIL FOR ALL PASSENGER CARS RUNNING ON PETROL.
  - OUTSTANDING ENGINE CLEANLINESS & ENHANCED ENGINE LIFE
  - EXCELLENT LUBRICATION OVER A WIDE TEMPERATURE RANGE
  - IMPROVED FUEL ECONOMY
  - COMPATIBLE WITH CATALYTIC CONVERTER

<b>KINEMATIC VISCOSITY cst @ 100C</b>	<b>14-16</b>
<b>VISCOSITY INDEX,MIN</b>	<b>120</b>
<b>FLASH POINT, (COC) C,MIN</b>	<b>200</b>
<b>POUR POINT, C , MAX</b>	<b>-24</b>
<b>SULPHATED ASH,% WT,MAX</b>	<b>1.03</b>
<b>TBN ,mgKOH/g,MIN</b>	<b>6.5</b>
<b>COLOUR</b>	<b>ORANGE</b>

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# HP Lubricants - Product Data Sheet



## HP RACER 2 LOW SMOKE

- HP RACER 2 LOW SMOKE IS SUPERIOR GRADE TWO-STROKE OIL FORMULATED WITH PART SYNTHETIC BASE , FORTIFIED WITH FINELY BALANCED ADDITIVES AND CONTAINS EXCELLENT SOLVENT
- MEETS API TC , JASO M-345:FC (THE PRODUCT IS ON FILE WITH **JALOS**)
- RECOMMENDED FOR USE IN ALL 2 STROKE PETROL ENGINES
  - ENVIRONMENT FRIENDLY WITH VERY LOW VISIBLE SMOKE EMISSION
  - MINIMUM DEPOSIT FORMATION & PRE IGNITION
  - QUICK START
  - IDEAL FOR MODERN ENGINES WITH OIL INJECTION SYSTEMS AS WELL AS CONVENTIONAL ENGINES

<b>KINEMATIC VISCOSITY</b> cst @ 100C	<b>6.5</b>
<b>FLASH POINT, (COC) C,MIN</b>	<b>70</b>
<b>POUR POINT, C , MAX</b>	<b>-15</b>
<b>COLOUR</b>	<b>ORANGE</b>

**APPROVED BY :**  
**M/s ESCORTS YAMAHA MOTOR LTD.**  
**M/s LML**

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# HP Lubricants - Product Data Sheet



## HP SUNDARI

- **HP SUNDARI IS PREMIUM QUALITY SEMI-SYNTHETIC LOW SMOKE ENGINE OIL FOR THREE WHEELERS.**
- **MEETS APITC&JASO M-345:FC**
- **RECOMMENDED FOR USE IN ALL 2-STROKE PETROL ENGINES**
  - **SPECIAL ENGINE CARE**
  - **FUEL ECONOMY**
  - **LOW SMOKE**
  - **OPTIMUM VISCOSITY**

<b>KINEMATIC VISCOSITY cst @ 100C</b>	<b>11-14</b>
<b>FLASH POINT, (COC) C,MIN</b>	<b>70</b>
<b>POUR POINT, C , MAX</b>	<b>-15</b>
<b>COLOUR</b>	<b>ORANGE</b>

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# HP Lubricants - Product Data Sheet



## HP RACER 4

- MULTIPURPOSE ENGINE OIL FOR LUBRICATION OF ENGINE, GEAR BOX & WET CLUTCHES IN 4-STROKE TWO WHEELERS
- MEETS API SG AND JASO T903:MA SPECIFICATIONS (THE PRODUCT IS ON FILE WITH JALOS)
- RECOMMENDED FOR USE IN ALL 4 STROKE MOTORCYCLES, SCOOTERS, MOPEDS & SCOOTERETES
  - OPTIMISED CO-EFFICIENT OF FRICTION
  - EXCELLENT OXIDATION STABILITY
  - SLUDGE & VARNISH CONTROL
  - GEAR ANTIWEAR & EXTREME PRESSURE PROPERTIES

	<b>20W 40</b>
<b>KINEMATIC VISCOSITY est @ 100C</b>	<b>14.5-15.5</b>
<b>VISCOSITY INDEX, MIN</b>	<b>110</b>
<b>FLASH POINT, (COC) C, MIN</b>	<b>200</b>
<b>POUR POINT, C, MAX</b>	<b>-21</b>
<b>SULPHATED ASH, % WT, MAX</b>	<b>0.82</b>
<b>TBN, mgKOH/g, MIN</b>	<b>5.9</b>

**APPROVED BY:**  
M/s ESCORTS YAMAHA MOTOR LTD.  
M/s ROYAL ENFIELD MOTORS  
M/s BAJAJ AUTO

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# HP Lubricants - Product Data Sheet



## HP RAIL ROAD OIL 817M

- HP RAIL ROAD OIL 817M IS GENERATION 5 ZINC FREE MULTIGRADE CRANKCASE OIL FOR ALL EMD LOCOMOTIVES
- MEETS API CF & LMOA GENERATION-V
- RECOMMENDED FOR USE IN EMD LOCOMOTIVES OPERATING IN INDIAN RAILWAYS
  - FUEL ECONOMY
  - REDUCED LUBE OIL CONSUMPTION
  - CLEANER ENGINES & LESSER WEAR

<b>KINEMATIC VISCOSITY cst @ 100C</b>	<b>15.5-16.3</b>
<b>VISCOSITY INDEX,MIN</b>	<b>110</b>
<b>FLASH POINT, (COC) C,MIN</b>	<b>200</b>
<b>POUR POINT, C , MAX</b>	<b>-21</b>
<b>TBN , mg KOH/g, MIN</b>	<b>17</b>
<b>ZINC, PPM, MAX</b>	<b>10</b>

**PRODUCT IS WORTHY OF FULL SCALE FIELD TEST IN EMD LOCOS**

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# HP Lubricants - Product Data Sheet



## HP RAIL ROAD OIL 813M

- HP RAIL ROAD OIL 813M IS A GENERATION 5 ZINC FREE MULTIGRADE CRANKCASE OIL FOR ALL LOCOMOTIVES INCLUDING EMD , GE & ALCO
- MEETS API CF & LMOA GENERATION-V
- RECOMMENDED FOR USE IN ALL TYPE S OF LOCOMOTIVES OPERATING IN INDIAN RAILWAYS.ABSENCE OF ZINC IN THE OIL MAKES IT IDEAL FOR USE IN DIESEL LOCOMOTIVES FITTED WITH SILVER COMPONENTS
  - FUEL ECONOMY
  - REDUCED LUBE OIL CONSUMPTION
  - CLEANER ENGINES & LESSER WEAR

<b>KINEMATIC VISCOSITY cst @ 100C</b>	<b>15.5-16.3</b>
<b>VISCOSITY INDEX,MIN</b>	<b>110</b>
<b>FLASH POINT, (COC) C,MIN</b>	<b>200</b>
<b>POUR POINT, C , MAX</b>	<b>-21</b>
<b>SULPHATED ASH % WT.,MAX</b>	<b>1.63</b>
<b>TBN ,mgKOH/g,MIN</b>	<b>13</b>
<b>ZINC, PPM, MAX</b>	<b>10</b>
<b>FOAM TENDENCY / STABILITY, ml,MAX</b>	
<b>SEQUENCE -I</b>	<b>25/NIL</b>
<b>SEQUENCE -II</b>	<b>150/NIL</b>
<b>SEQUENCE-III</b>	<b>25/NIL</b>

**PRODUCT IS UNDER TRIAL IN INDIAN RAILWAYS**

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# HP Lubricants - Product Data Sheet



## HP RAIL ROAD OIL 613

- HP RAIL ROAD OIL 613 IS A GENERATION -4 CRANKCASE OIL DEVELOPED TO MEET THE REQUIREMENTS OF ALCO /DLW LOCOMOTIVES
- MEETS API CD ,US MILITARY MIL-L-2104C, LMOA GENERATION-IV & E-DL 2 OF IS 13656-1993 SPECIFICATIONS.
- RECOMMENDED FOR USE IN ALCO/ DLW LOCOMOTIVES OPERATING IN INDIAN RAILWAYS . IT IS HOWEVER NOT RECOMMENDED FOR USE IN LOCOMOTIVES FITTED WITH SILVER LINED COMPONENTS.
  - PROTECTION AGAINST DEPOSITS AND ENGINE WEAR.
  - ENGINE CLEANLINESS
  - EXCELLENT CONTROL ON CORROSIVE WEAR .

<b>KINEMATIC VISCOSITY cst @ 100C</b>	<b>15.8-16.2</b>
<b>VISCOSITY INDEX,MIN</b>	<b>90</b>
<b>FLASH POINT, (COC) C,MIN</b>	<b>225</b>
<b>POUR POINT, C , MAX</b>	<b>-6</b>
<b>SULPHATED ASH% WT , MAX</b>	<b>1.9</b>
<b>TBN ,mgKOH/g,MIN</b>	<b>12.9</b>

APPROVED BY :

RDSO FOR USE IN ALCO / DLW LOCOMOTIVES OPERATING IN INDIAN RAILWAYS

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# HP Lubricants - Product Data Sheet



## HP RAIL ROAD OIL 713

- HP RAIL ROAD OIL 713 IS A GENERATION -4 ZINCFREECRANKCASE OIL FOR ALL LOCOMOTIVES INCLUDING EMD,GE & ALCO
- MEETS API CD , US MILITARY MIL-L-45199B, LMOA GENERATION-IV & E-DL 2 OF IS:13656-1993 SPECIFICATIONS
- RECOMMENDED FOR USE IN ALL TYPES OF LOCOMOTIVES OPERATING IN INDIAN RAILWAYS.ABSENSE OF ZINC IN THE OIL MAKES IT IDEAL FOR USE IN DIESEL LOCOMOTIVES FITTED WITH SILVER COMPONENTS
  - RESISTANCE TO DEPOSITS ON ENGINE PARTS
  - EXCEPTIONAL THERMAL AND OXIDATION STABILITY
  - ABSOLUTE CONTROL OF CORROSIVE WEAR

<b>KINEMATIC VISCOSITY cst @ 100C</b>	<b>15.8-16.2</b>
<b>VISCOSITY INDEX,MIN</b>	<b>90</b>
<b>FLASH POINT, (COC) C,MIN</b>	<b>225</b>
<b>POUR POINT, C , MAX</b>	<b>-6</b>
<b>SULPHATED ASH % WT.,MAX</b>	<b>1.8</b>
<b>TBN ,mgKOH/g,MIN</b>	<b>12.9</b>
<b>ZINC, PPM, MAX</b>	<b>10</b>
<b>FOAM TENDENCY / STABILITY, ml,MAX</b>	
<b>SEQUENCE -I</b>	<b>NIL</b>
<b>SEQUENCE -II</b>	<b>NIL</b>
<b>SEQUENCE-III</b>	<b>NIL</b>

APPROVED BY :

RDSO FOR USE IN ALL TYPES OF LOCOMOTIVES OPERATING IN INDIAN RAILWAYS

L&T FOR DETROIT DG SETS

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# HP Lubricants - Product Data Sheet



## HP AUTOLUBE 30,40

- HP AUTOLUBE 30,40 ARE SPECIALLY DEVELOPED ENGINE LUBRICANT CUM RUNNING IN OILS CONTAINING ADDITIONAL CORROSION PROTECTION
- RECOMMENDED FOR ALL ENGINES AS RUNNING OIL, PRESERVATIVES & FIRST FILL OILS
  - PROVIDES PROPER RUNNING-IN
  - PROTECTS ENGINE COMPONENTS AGAINST RUST AND CORROSION
  - CONTAINS REQUIRED DETERGENCY & DISPERSANCY

	30	40
<b>KINEMATIC VISCOSITY <i>est</i> @ 100C</b>	<b>9.6-12.4</b>	<b>14-16</b>
<b>VISCOSITY INDEX,MIN</b>	<b>90</b>	<b>90</b>
<b>FLASH POINT, (COC) C,MIN</b>	<b>210</b>	<b>210</b>
<b>POUR POINT, C , MAX</b>	<b>0</b>	<b>0</b>
<b>SULPHATED ASH,% WT,MAX</b>	<b>1.2</b>	<b>1.2</b>
<b>TBN ,mgKOH/g,MIN</b>	<b>7.5</b>	<b>7.5</b>
<b>CORROSION Cu STRIP @ 100 C FOR 3Hrs , MAX</b>	<b>1</b>	<b>1</b>
<b>DB CORROSION TEST</b>		
<b>CORROSION RESISTANCE NUMBER,MIN</b>	<b>90</b>	<b>90</b>
<b>STAINING/DISCOLOURATION,MAX</b>	<b>NONE</b>	<b>NONE</b>

APPROVED BY :  
M/s TELCO  
M/s HM  
M/s GUJRAT FORGINGS

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# HP Lubricants - Product Data Sheet



## HP AUTOPRUN T 120

- HP AUTOPRUN T120 IS A SPECIALLY DEVELOPED TRIPLE ACTION OIL FOR USE IN PETROL AND DIESEL ENGINES DURING RUNNING IN OPERATION, TRANSPORTATION , STORAGE AND DURING NORMAL RUNNING
- RECOMMENDED FOR ALL ENGINES AS RUNNING IN OIL, PRESERVATIVE & FIRST FILL OILS
  - PROVIDES PROPER RUNNING –IN
  - PROTECTS ENGINES COMPONENTS AGAINST RUST AND CORROSION DURING TRANSPORTATION OR LONG STORAGE EVEN UNDER ADVERSE CONDITIONS SUCH AS DURING SEA VOYAGE
  - CONTAINS REQUIRED DETERGENCY & DISPERSANCY

<b>KINEMATIC VISCOSITY cst @ 40C</b>	<b>108-120</b>
<b>KINEMATIC VISCOSITY cst @ 100C</b>	<b>9.6-12.4</b>
<b>VISCOSITY INDEX,MIN</b>	<b>90</b>
<b>FLASH POINT, (COC) C,MIN</b>	<b>210</b>
<b>POUR POINT, C , MAX</b>	<b>0</b>
<b>SULPHATED ASH,%WT,MAX</b>	<b>2.6</b>
<b>TBN ,mgKOH/g,MIN</b>	<b>16</b>
<b>DB CORROSION TEST</b>	
<b>CORROSION RESISTANCE NUMBER, MIN</b>	<b>90</b>
<b>STAINING DISCOLOURATION, MAX</b>	<b>NONE</b>

APPROVED BY:  
M/s GUJRAT FORGINGS  
M/s HM

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# HP Lubricants - Product Data Sheet



## HP NATURAL GAS ENGINE OIL L40

- HP NATURAL GAS ENGINE OIL L40 IS LOW ASH NATURAL GAS ENGINE OIL FOR STATIONARY APPLICATIONS
- OIL MEETS API-CF
- RECOMMENDED FOR STATIONARY DG SETS RUNNING ON NATURAL GAS EQUIPPED WITH 4 STROKE ENGINES REQUIRING LOW ASH (0.1% WT TO 0.6% WT.)
- RECOMMENDED FOR CATERPILLAR ENGINES RUNNING ON NATURAL GAS
  - GOOD CONTROL ON OXIDATION & NITRATION
  - EXCEPTIONAL CONTROL ON DEPOSITS & WEAR
  - OPTIMISED LUBRICANT ASH LEVEL

<b>KINEMATIC VISCOSITY cst @ 100 C</b>	<b>13.5-16.0</b>
<b>VISCOSITY INDEX,MIN</b>	<b>90</b>
<b>FLASH POINT, (COC) C,MIN</b>	<b>215</b>
<b>POUR POINT, C , MAX</b>	<b>-6</b>
<b>SULPHATED ASH,%WT,MAX</b>	<b>0.5</b>
<b>TBN ,mgKOH/g,MIN</b>	<b>4.5</b>

**GAS ENGINES HAVE VERY WELL DEFINED LUBRICANT NEEDS. MOST OEMs SPECIFY NARROW BANDS OF SULPHATED ASH , WHICH IS REQUIRED TO OPTIMISE PERFORMANCE FOR PARTICULAR ENGINE.**

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# HP Lubricants - Product Data Sheet



## HP NATURAL GAS ENGINE OIL L 15W 40

- HP NATURAL GAS ENGINE OIL L 15W 40 IS LOW SMOKE ASH NATURAL GAS ENGINE OIL
- MEETS API CF
- RECOMMENDED FOR STATIONARY DG SETS RUNNING ON NATURAL GAS EQUIPPED WITH 4 STROKE ENGINES REQUIRING LOW ASH ( 0.1% WT. TO 0.6% WT.)
- RECOMMENDED FOR CUMMINS ENGINES RUNNING ON NATURAL GAS
  - GOOD CONTROL ON OXIDATION & NITRATION
  - EXCEPTIONAL CONTROL ON DEPOSITS & WEAR
  - OPTIMISED LUBRICANT ASH LEVEL

<b>KINEMATIC VISCOSITY <i>est</i> @ 100 C</b>	<b>14-16</b>
<b>VISCOSITY INDEX,MIN</b>	<b>120</b>
<b>FLASH POINT, (COC) C,MIN</b>	<b>190</b>
<b>POUR POINT, C , MAX</b>	<b>-21</b>
<b>SULPHATED ASH,%WT,MAX</b>	<b>0.5</b>
<b>TBN ,mgKOH/g,MIN</b>	<b>4.5</b>

**MULTIGRADING PROVIDES THE LUBRICANT WITH ADDITIONAL PROPERTIES , WHICH HELP IN MAINTAINING PERFORMANCE AT VARYING TEMPERATURES.**

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# HP Lubricants - Product Data Sheet



## HP NATURAL GAS ENGINE OIL A 40

- HP NATURAL GAS ENGINE OIL A 40 IS ASHLESS NATURAL GAS ENGINE OIL FOR STATIONARY APPLICATION
- MEETS API CF
- RECOMMENDED FOR STATIONARY DG SETS RUNNING ON NATURAL GAS EQUIPPED WITH 2 STROKE ENGINES REQUIRING ASHLESS PRODUCT.
- RECOMMENDED FOR COOPER BESSEMER STATIONARY ENGINES
  - GOOD CONTROL ON OXIDATION & NITRATION
  - EXCEPTIONAL CONTROL ON DEPOSITS & WEAR

<b>KINEMATIC VISCOSITY <i>est</i> @ 100 C</b>	<b>13.5-16.0</b>
<b>VISCOSITY INDEX,MIN</b>	<b>90</b>
<b>FLASH POINT, (COC) C,MIN</b>	<b>215</b>
<b>POUR POINT, C , MAX</b>	<b>-6</b>
<b>SULPHATED ASH,% WT,MAX</b>	<b>0.1</b>
<b>TBN ,mgKOH/g,MIN</b>	<b>1.5</b>

**MOST OF 2-STROKE ENGINE DESIGN INHERENTLY RESULT IN ASH AND DEPOSITS FORMING AT VARIOUS PARTS. THE USE OF ASHLESS TYPE OILS REDUCES THE LIKELY HOOD OF THESE DEPOSITS FROM FORMING**

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# HP Lubricants - Product Data Sheet



## HP NATURAL GAS ENGINE OIL M 40

- HP NATURAL GAS ENGINE OIL M 40 IS MID ASH NATURAL GAS ENGINE OIL FOR STATIONARY APPLICATION
- OIL MEETS API-CF
- RECOMMENDED FOR STATIONARY DG SETS RUNNING ON SOUR GAS (LANDFILL & SEWAGE) REQUIRING MID ASH (0.6% WT TO 1% WT.)
- ALSO RECOMMENDED FOR SUPERIOR & LEAN BURN WAUKESHA ENGINES
  - GOOD CONTROL ON OXIDATION & NITRATION
  - EXCEPTIONAL CONTROL ON DEPOSITS & WEAR

<b>KINEMATIC VISCOSITY cst @ 100 C</b>	<b>13.5-16.0</b>
<b>VISCOSITY INDEX,MIN</b>	<b>90</b>
<b>FLASH POINT, (COC) C,MIN</b>	<b>215</b>
<b>POUR POINT, C , MAX</b>	<b>-6</b>
<b>SULPHATED ASH,% WT,MAX</b>	<b>0.6-1.0</b>
<b>TBN ,mgKOH/g,MIN</b>	<b>7.5</b>

**ENGINES RUNNING ON SOUR GAS REQUIRE A HIGH TBN ,  
BECAUSE SOUR GAS ON COMBUSTION PRODUCE STRON  
ACIDS**

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# HP Lubricants - Product Data Sheet



## HP GEAR OIL ST 90,140

- HP GEAR OIL ST ARE STRAGIHT MINERAL AUTOMOTIVE TRANSMISSION AND DIFFERENTIAL LUBRICANTS DESIGNED FOR NON EP GEAR LUBRICATION
- MEETS IS1277:1987
- APPLICATION AREAS ARE HYPOID GEARS & MANUAL TRANSMISSIONS OF AUTOMOBILES REQUIRING THIS TYPE OF NON EP GEAR OILS
  - MODERATE DUTY AUTOMOTIVE GEAR OILS
  - PROVIDED EFFECTIVE PROTECTION

	90	140
<b>KINEMATIC VISCOSITY cst @ 100 C</b>	<b>16.5-17.3</b>	<b>28-33</b>
<b>VISCOSITY INDEX,MIN</b>	<b>90</b>	<b>90</b>
<b>FLASH POINT, (COC) C,MIN</b>	<b>180</b>	<b>190</b>
<b>POUR POINT, C , MAX</b>	<b>-9</b>	<b>-3</b>

**PRODUCT IS BEING PHASED OUT**

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# HP Lubricants - Product Data Sheet



## HP GEAR OIL EP 80W , 90,140

- HP GEAR OIL EP ARE MULTIPURPOSE GEAR OILS CONTAINING EXTREME PRESSURE ADDITIVES FOR MODERATE SERVICE CONDITIONS
- MEETS API GL-4, MIL-L-2105 & EP TYPE GL-4 LEVEL OF IS:1118:1992 SPECIFICATIONS
- APPLICATION AREAS ARE MANUAL TRANSMISSIONS OF AUTOMOBILES REQUIRING THIS TYPE OF EXTREME PRESSURE OILS
  - EXCELLENT THERMAL & CHEMICAL STABILITY
  - PROTECTION AGAINST RUST AND CORROSION ENSURING LONGER TROUBLE FREE PROTECTION

	80w	90	140
<b>KINEMATIC VISCOSITY cst @ 100 C</b>	<b>11-12.3</b>	<b>14.5-17.3</b>	<b>28-33</b>
<b>VISCOSITY INDEX,MIN</b>	<b>90</b>	<b>90</b>	<b>90</b>
<b>FLASH POINT, (COC) C,MIN</b>	<b>165</b>	<b>180</b>	<b>190</b>
<b>POUR POINT, C , MAX</b>	<b>-27</b>	<b>-9</b>	<b>-3</b>
<b>CORROSION COPPER STRIP</b>			
<b>AT 121 C FOR 3 HRS MAX.</b>	<b>2</b>	<b>2</b>	<b>2</b>

### APPROVED BY:

M/s VOLTAS LTD.,M/s BEML , M/s TELCO  
M/s HMT , M.s ASHOK LEYLAND, M/s PUNJAB TRACTORS  
M/s HINDUSTAN MOTORS, M/s EICHER M/s ECEL,M/s ESCPRTS  
M/s BAJAJ TEMPO

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# HP Lubricants - Product Data Sheet

## HP LAAL GHODA GEAR OIL EP 90



- HP LAAL GHODA GEAR OIL EP IS MULTIPURPOSE GEAR OIL CONTAINING EXTREME PRESSURE ADDITIVES FOR MODERATE SERVICE CONDITION
- MEETS API GL -4 , MIL - L - 2105 & EP TYPE GL - 4 LEVEL OF IS 1118 : 1992
- APPLICATION AREAS ARE MANUAL TRANSMISSIONS OF AUTOMOBILES REQUIRING THIS TYPE OF EXTREME PRESSURE OILS.
  - EXCELLENT THERMAL & CHEMICAL STABILITY
  - PROTECTION AGAINST RUST & CORROSION ENSURING LONGER TROUBLE FREE PROTECTION

<b>KINEMATIC VISCOSITY, CST. @ 100°C</b>	<b>16.5 -17.3</b>
<b>VISCOSITY INDEX, MIN</b>	<b>90</b>
<b>FLASH POINT, (COC), °C, MIN</b>	<b>180</b>
<b>POUR POINT, °C, MAX</b>	<b>- 9</b>
<b>CORROSION COPPER STRIP AT 121 °C, FOR 3 HOURS , MAX</b>	<b>2</b>

**PRODUCT IN ECONOMY RANGE.**

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# HP Lubricants - Product Data Sheet



## HP GEAR OIL EP 80W – 90

- HP GEAR OIL EP 80W – 90 IS MULTIGRADE GEAR OIL CONTAINING EXTREME PRESSURE ADDITIVES FOR MODERATE CONDITION SERVICE
- MEETS API GL –4 , MIL – L – 2105 AND EP TYPE GL – 4 LEVEL OF IS 1118 : 1992
- APPLICATION AREAS ARE SYNCHROMESH TRANSMISSIONS AND MANUAL TRANSMISSIONS OF AUTOMOBILES.
  - EXCELLENT THERMAL & CHEMICAL STABILITY
  - PROTECTION AGAINST RUST & CORROSION ENSURING LONGER TROUBLE FREE PROTECTION

<b>KINEMATIC VISCOSITY, CST. @ 100°C</b>	<b>13.5 -24.0</b>
<b>VISCOSITY INDEX, MIN</b>	<b>90</b>
<b>FLASH POINT, (COC), °C, MIN</b>	<b>165</b>
<b>POUR POINT, °C, MAX</b>	<b>- 21</b>

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M/S DAEWOO.**

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# HP Lubricants - Product Data Sheet



## HP GEAR OIL EP 75W - 90

- HP GEAR OIL EP 75W – 90 IS SEMI SYNTHETIC GEAR OIL CONTAINING EXTREME PRESSURE ADDITIVES FOR MODERATE CONDITION SERVICE
- MEETS API GL – 4
- APPLICATION AREAS ARE ALL GEAR BOXES WHEREA VISCOMETRIX OF 75W – 90 IS RECOMMENDED IN API GL – 4 CATEGORY.
  - EXCELLENT FUEL ECONOMY
  - ENCHANCED LOW TEMPERATURE PROPERTIES
  - GOOD PERFORMANCE EVEN UNDER EXTREME PRESSURE & VARYING LOAD CONDITIONS

<b>KINEMATIC VISCOSITY, CST. @ 100°C</b>	<b>13.5 -24.0</b>
<b>VISCOSITY INDEX, MIN</b>	<b>146</b>
<b>FLASH POINT, (COC), °C, TYP</b>	<b>218</b>
<b>POUR POINT, °C, TYP</b>	<b>- 45</b>

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# HP Lubricants - Product Data Sheet



## HP GEAR OIL XP 80W,90, 140

- HP GEAR OIL XP ARE MULTIPURPOSE GEAR OILS CONTAINING EXTREME PRESSURE ADDITIVES FOR MODERATE AS WELL AS SEVERE CONDITION SERVICE
- MEETS API GL – 5 ,MIL – L 2105 B, EP TYPE GL – 5 LEVEL OF IS : 1118 :1992
- APPLICATION AREAS ARE HYPOID DIFFERENTIAL & DRIVE AXLES AND MANUAL TRANSMISSIONS OF AUTOMOBILES
  - EXCELLENT THERMAL & CHEMICAL STABILITY
  - PROTECTION AGAINST RUST & CORROSION ENSURING LONGER TROUBLE FREE PROTECTION
  - GOOD PERFORMANCE EVEN UNDER EXTREME PRESSURE & VARYING LOAD CONDITIONS

	80W	90	140
<b>KINEMATIC VISCOSITY, CST. @ 40 °C</b>	120	200MIN	480
<b>KINEMATIC VISCOSITY, CST. @ 100 °C</b>	10.5 – 12.5	17- 18	28 – 33
<b>VISCOSITY INDEX, MIN</b>	90	90	90
<b>FLASH POINT, (COC), °C, MIN</b>	165	180	190
<b>POUR POINT, °C, MAX</b>	-24	-9	-3
<b>CORROSION, COPPER STRIP,AT 121 °C</b>			
<b>FOR 3 HOURS , MAX</b>	3	3	3

### APPROVED BY

- M/S BEML
- M/S SWARAJ MAZDA
- M/S HINDUSTAN MOTOR
- M/S TELCO
- M/S MURUTI UDYOG
- M/S DAEWOO

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# HP Lubricants - Product Data Sheet



## HP GEAR OIL XP 85W 140

- **HP GEAR OIL XP 85W 140 IS MULTIGRADE OIL CONTAINING EXTREME PRESSURE ADDITIVES FOR HEAVY DUTY SERVICE.**
- **MEETS API GL – 5, MIL – L 2105 C/D AND EP TYPE GL – 5 LEVEL OF IS : 1118 :1992 SPECIFICATIONS**
- **RECOMMENDED FOR HYPOID DIFFERENTIAL, REAR AXLE & FINAL DRIVES.**
  - **EXCELLENT THERMAL & CHEMICAL STABILITY**
  - **FUEL ECONOMY**
  - **GOOD PERFORMANCE EVEN UNDER VARYING LOADS**

<b>KINEMATIC VISCOSITY, CST. @ 100 °C</b>	<b>24 – 32</b>
<b>VISCOSITY INDEX, MIN</b>	<b>85</b>
<b>FLASH POINT, (COC), °C, MIN</b>	<b>180</b>
<b>POUR POINT, °C, MAX</b>	<b>-21</b>
<b>CORROSION, COPPER STRIP, AT 121 °C FOR 3 HOURS , MAX</b>	<b>3</b>

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# HP Lubricants - Product Data Sheet



## HP GEAR OIL XP 80W-90

- HP GEAR OIL XP 80W - 90 IS MULTIPURPOSE GEAR OIL CONTAINING EXTREME PRESSURE ADDITIVES FOR MODERATE AS WELL AS SEVERE CONDITIONS SERVICE.
- MEETS API GL – 5 MIL – L 2105 C/D AND EP Type GL – 5 LEVEL OF IS: 1118 : 1992 SPECIFICATIONS
- APPLICATION AREAS ARE HYPOID DIFFERENTIAL & DRIVE AXLES AND MANUAL TRANSMISSIONS OF AUTOMOBILES.
- EXCELLENT THERMAL & CHEMICAL STABILITY
- PROTECTION AGAINST RUST & CORROSION ENSURING LONGER TROUBLE FREE PROTECTION
- GOOD PERFORMANCE EVEN UNDER EXTREME PRESSURE & VARYING LOAD CONDITIONS

<b>KINEMATIC VISCOSITY, cSt. @ 100 °C</b>	<b>13.5 – 24</b>
<b>VISCOSITY INDEX, MIN</b>	<b>90</b>
<b>FLASH POINT, (COC), °C, MIN</b>	<b>165</b>
<b>POUR POINT, °C, MAX</b>	<b>-21</b>
<b>CORROSION, COPPER STRIP, AT 121 °C FOR 3 HOURS , MAX</b>	<b>3</b>

### APPROVED BY

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- M/s BEML

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# HP Lubricants - Product Data Sheet



## HP ATF DEX II

- HP AT DEX II IS A PREMIUM QUALITY RED COLOURED AUTOMATIC TRANSMISSION FLUID HAVING LOW STATIC FRICTION PROPERTIES.
  - RECOMMENDED FOR USE IN AUTOMOTIC TRANSMISSION S & POWER STEERING UNITS OF AUTOMOBILES AND OTHER LCV'S REQUIRING DEXRON II FLUIDS
  - MEETS SPECIFICATION 6137 M – DEXRON II OF GENERAL MOTORS, USA.
- BETTER OXIDATION STABILITY
  - LOW TEMPERATURE VISCOSITY
  - LONGER LIFE
  - SEAL COMPATIBILITY

<b>KINEMATIC VISCOSITY, CST. @ 100 °C</b>	<b>5.5</b>
<b>FLASH POINT, (COC), °C, MIN</b>	<b>160</b>
<b>FIRE POINT, °C MIN</b>	<b>175</b>
<b>ASH, SULPHATED, % WT,MAX</b>	<b>0.1</b>
<b>COLOUR, VISUAL</b>	<b>RED</b>
<b>FOAMING CHARACTERISTIC , TENDENCY /STABILITY, MAX</b>	
<b>@ 95°C</b>	<b>NO FOAM</b>
<b>@ 135°C</b>	
<b>FOAMING HEIGHT, ML</b>	<b>10</b>
<b>COLLAPSE TIME, SECS</b>	<b>23</b>

### APPROVED BY

- M/s DAEWOO M/s IND AUTO LTD
- M/s ASHOK LEYLAND

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# HP Lubricants - Product Data Sheet

## HPAUTOMATIC TRANSMISSION FLUID



- HP AUTOMATIC TRANSMISSION FLUID IS RED COLOURED PREMIUM QUALITY TRANSMISSION OIL.
- RECOMMENDED FOR USE IN AUTOMOTIC TRANSMISSION SYNCHROMESH GEAR BOXES OF AUTOMOBILES AND TRUCKS RECOMMENDING GM TYPE A SUFFIX A FLUID.
- MEETS GM TYPE A SUFFIX A & TYPE C – 3 OF DETROIT DIESEL ALLISON
- THERMAL & OXIDATION RESISTANCE
- LOW TEMPERATURE FLUIDITY & FOAM CONTROL
- SEAL COMPATIBILITY
- CORROSION & ANTIWEAR PROPERTIES.

<b>KINEMATIC VISCOSITY, CST. @ 100 °C</b>	<b>7</b>
<b>VISCOSITY INDEX, MIN</b>	<b>160</b>
<b>FLASH POINT, (COC), °C, MIN</b>	<b>175</b>
<b>POUR POINT, °C, MAX</b>	<b>-39</b>
<b>CORROSION, COPPER STRIP, AT 100 °C FOR 3 HOURS , MAX</b>	<b>3</b>
<b>COLOUR , VISUAL</b>	<b>RED</b>

### APPROVED BY

- M/S HINDUSTAN MOTORS      M/S BEML
- M/S VOLTAS LTD              M/S ASHOK LEYLAND
- M/S BROG WARNER,GERMANY

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# HP Lubricants - Product Data Sheet



## HP POWERGLIDE C 410 / 430

- HP POWERGLIDE C 410 & 430 ARE ALLISON C – 4 SERVICE CLASSIFICATION TRANSMISSION OILS.
- RECOMMENDED FOR ALL COMMERCIAL POWERSHIFT TRANSMISSIONS . INDUSTRIAL TORQUE CONVERTERS & AUTOMATIC TRANSMISSION REQUIRING ALLISION C – 4 OILS
- GOOD HIGH TEMPERATURE PROPERTIES
- SEVERE OXIDATION CONTROL PROPERTIES

	410	430
<b>KINEMATIC VISCOSITY,CST. @ 100°C</b>	<b>4.1 MIN</b>	<b>9.3 – 12.5</b>
<b>VISCOSITY INDEX, MIN</b>	<b>100</b>	<b>95</b>
<b>FLASH POINT, (COC), °C, MIN</b>	<b>160</b>	<b>160</b>
<b>POUR POINT, °C, MAX</b>	<b>- 21</b>	<b>-15</b>
<b>ASH, SULPHATED, % WT, MAX</b>	<b>1.22</b>	<b>1.22</b>
<b>ACIDITY TOTAL, MG KOH/ GM</b>	<b>2.1</b>	<b>2.1</b>
<b>CORROSION, COPPER STRIP, AT 100 °C FOR 3 HOURS , MAX</b>	<b>1</b>	<b>1</b>
<b>TOTAL BASE NUMBER, mg KOH/GM, MIN</b>	<b>9.2</b>	<b>9.2</b>
<b>RUST TEST, 24 HRS WITH SYNTHETIC SEA WATER</b>	<b>PASS</b>	<b>PASS</b>

### APPROVED BY

- M/S HM
- M/S BEML
- M/S BRITANNIA ENGINEERING LTD.
- M/S ALLISON TRANSMISSION

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# HP Lubricants - Product Data Sheet



## HP POWERGLIDE C 310 / 330

- HP POWERGLIDE C 310 & 330 ARE ALLISON C – 3 SERVICE CLASSIFICATION TRANSMISSION OILS.
- RECOMMENDED FOR ALL COMMERCIAL POWERSHIFT TRANSMISSIONS. INDUSTRIAL TORQUE CONVERTERS & AUTOMATIC TRANSMISSION REQUIRING ALLISION C – 3 OILS
- GOOD HIGH TEMPERATURE PROPERTIES
- SEVERE OXIDATION CONTROL PROPERTIES

	310	330
<b>KINEMATIC VISCOSITY, CST.</b>		
@ 40 °C	31.9	120 MAX
@ 100°C	5.6 – 6.3	9.3 – 12.5
<b>VISCOSITY INDEX , MIN</b>	100	95
<b>FLASH POINT, (COC), °C, MIN</b>	200	230
<b>POUR POINT, °C, MAX</b>	- 27	-15
<b>ASH , SULPHATED, % WT, MAX</b>	1.4	1.4
<b>CORROSION, COPPER STRIP, AT 100 °C FOR 3 HOURS , MAX</b>	1	1

### APPROVED BY

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- M/S VST TILLERS
- M/S BRITANNIA ENGINEERING LTD.
- M/S ALLISON TRANSMISSION

M/S ECEL  
M/S HM

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# HP Lubricants - Product Data Sheet



## HP POWERFLUID LTP 100

- HP POWERFLUID LTP 100 IS A PREMIUM QUALITY ANTI WEAR TYPE HYDRAULIC OIL WITH VERY HIGH SHEAR STABILITY. SPECIALLY DEVELOPED FOR USE IN L & T EARTHMOVING EQUIPMENTS.
- RECOMMENDED FOR ALL MODERN HYDRAULIC SYSTEMS USED IN EARTH MOVING EQUIPMENTS. ALSO RECOMMENDED FOR LOW OPERATING TEMPERATURE CONDITIONS
- MEETS INDEX F REQUIREMENT PART NO Z00032-42 OF L&T
  - VERY HIGH VISCOSITY INDEX
  - VERY LOW POUR POINT

<b>KINEMATIC VISCOSITY, CST.</b>	
<b>@ 40 °C</b>	<b>100 – 115</b>
<b>@ 100°C</b>	<b>13.5</b>
<b>VISCOSITY INDEX , MIN</b>	<b>120</b>
<b>FLASH POINT, (COC), °C, MIN</b>	<b>200</b>
<b>POUR POINT, °C, MAX</b>	<b>-24</b>
<b>CORROSION, COPPER STRIP, AT 100 °C FOR 3 HOURS , MAX</b>	<b>1B</b>
<b>AIR RELEASE VALUE @ 70°C , MINUTES , MAX</b>	<b>7</b>
<b>ACIDITY, TOTAL, MG KOH/ GM</b>	<b>1.05</b>
<b>ANILINE POINT, °C</b>	<b>95</b>
<b>DEMULSIBILITY AT 82 °C , 20 MINUTES, MIN</b>	<b>40 –40-0</b>
<b>FOAM CHARACTERISICS TENDENCY / STABILITY, ML , MAX</b>	
<b>SEQUENCE I</b>	<b>30/NIL</b>
<b>SEQUENCE II</b>	<b>30/ NIL</b>
<b>SEQUENCE III</b>	<b>30/NIL</b>

**APPROVED BY  
L & T FOR DETROIT D.G.SETS.**

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# HP Lubricants - Product Data Sheet



## HP POWERFLUID TH 46

- HP POWERFLUID TH 46 IS A PREMIUM QUALITY ANTI WEAR TYPE HYDRAULIC OIL WITH VERY HIGH SHEAR STABILITY. SPECIALLY DEVELOPED FOR USE IN TATA HITACHI EXCAVATORS.
- RECOMMENDED FOR ALL MODERN HYDRAULIC SYSTEMS USED IN EARTH MOVING EQUIPMENTS. ALSO RECOMMENDED FOR LOW OPERATING TEMPERATURE CONDITIONS
  - VERY HIGH VISCOSITY INDEX
  - VERY LOW POUR POINT

<b>KINEMATIC VISCOSITY, CST.</b>	
<b>@ 40 °C</b>	<b>42 – 50</b>
<b>@ 100°C</b>	<b>7.4</b>
<b>VISCOSITY INDEX , MIN</b>	<b>135</b>
<b>FLASH POINT, (COC), °C, MIN</b>	<b>200</b>
<b>POUR POINT, °C, MAX</b>	<b>-24</b>
<b>CORROSION, COPPER STRIP, AT 100 °C FOR 3 HOURS , MAX</b>	<b>1</b>
<b>AIR RELEASE VALUE @ 50°C , MINUTES , MAX</b>	<b>15</b>
<b>ANILINE POINT, °C</b>	<b>117</b>
<b>FOAM CHARACTERISTICS TENDENCY / STABILITY, ML , MAX</b>	
<b>SEQUENCE I</b>	<b>NIL</b>
<b>SEQUENCE II</b>	<b>NIL</b>
<b>SEQUENCE III</b>	<b>NIL</b>
<b>RUSTING TEST, 24 HRS WITH SYNTHETIC SEA WATER</b>	<b>PASS</b>

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M/S TELCO**

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# HP Lubricants - Product Data Sheet



## HP POWERFLUID P 100

- HP POWERFLUID 100 IS A PREMIUM QUALITY ANTI WEAR TYPE HYDRAULIC OIL WITH VERY HIGH SHEAR STABILITY.
- RECOMMENDED FOR ALL MODERN HYDRAULIC SYSTEMS USED IN EARTH MOVING EQUIPMENTS. ALSO RECOMMENDED FOR LOW OPERATING TEMPERATURE CONDITIONS
  - VERY HIGH VISCOSITY INDEX
  - VERY LOW POUR POINT

<b>KINEMATIC VISCOSITY, CST.</b>	
<b>@ 40 °C</b>	<b>100 – 115</b>
<b>@ 100°C</b>	<b>14.7</b>
<b>VISCOSITY INDEX , MIN</b>	<b>135</b>
<b>FLASH POINT, (COC), °C, MIN</b>	<b>200</b>
<b>POUR POINT, °C, MAX</b>	<b>-24</b>
<b>CORROSION, COPPER STRIP, AT 100 °C FOR 3 HOURS , MAX</b>	<b>1</b>
<b>ACIDITY, TOTAL, MG KOH/ GM</b>	<b>1.55</b>
<b>ANILINE POINT, °C</b>	<b>117</b>
<b>RUST TEST , 24 HRS WITH SYNTHETIC WATER</b>	<b>PASS</b>
<b>FOAM CHARACTERISTICS</b>	
<b>FOAM / STABILITY, ML , MAX</b>	
<b>SEQUENCE I</b>	<b>NIL</b>
<b>SEQUENCE II</b>	<b>NIL</b>
<b>SEQUENCE III</b>	<b>NIL</b>

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# HP Lubricants - Product Data Sheet



## HP THANDA RAJA

- HP THANDA RAJU IS READY TO USE RADIATOR COOLANT WITH ANTI FREEZE & ANTI CORROSIVE PROPERTIES.
- MEETS JIS K 2234 OF 1994 (UNDILUTED)
- RECOMMENDED FOR USE IN COLLING SYSTEM OF ALLL DIESEL VEHICLES, PASSENGER CARS, JEEPS, VANS & TEMPOS.
  - EFFECITVE COOLING
  - GOOD CHEMICAL STABILITY
  - EXCELLENT PROTECTION AGAINST RUST & COORROSION.

<b>APPEARANCE</b>	<b>BRIGHT AND CLEAR</b>
<b>COLOUR</b>	<b>GREEN</b>
<b>FREEZING TEMP, °C, MAX</b>	<b>-14.5</b>
<b>.PH OF ORIGINAL LIQUOR</b>	<b>7.0 – 9.0</b>
<b>BOILING POINT, °C ORIGINAL LIQUOR, MIN</b>	<b>103</b>

HP THANDA RAJA CAN BE DIRECTLY Poured IN THE RADIATORS OF AUTOMOBILES AS IT IS IN READY TO USE FORM.

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# HP Lubricants - Product Data Sheet



## HP KOOLGARD

- HP KOOLGARD IS AN ENGINE COOLANT WITH ETHYLENE GLYCOL BASE FOR USE IN RADIATORS.
  - RECOMMENDED FOR USE IN COOLING SYSTEM OF ALL DIESEL VEHICLES, PASSENGER CARS, JEEPS VANS & TEMPOS.
  - HP KOOLGARD IS 100% CONCENTRATED PRODUCT. IT SHOULD BE USED IN DILUTION RATIO OF 20 % TO 50 % WITH WATER OR AS PER VEHICLE MANUFACTURES RECOMMENDATION.
- EASY MISCIBILITY WITH WATER
  - EFFECTIVE COOLING
  - GOOD CHEMICAL STABILITY
  - HIGH BOILING POINT & LOW FREEZING POINT
  - PROTECT RADIATOR AGAINST RUST & CORROSION.

<b>APPEARANCE</b>	<b>BRIGHT AND CLEAR</b>
<b>COLOUR</b>	<b>GREEN</b>
<b>FREEZING TEMP, °C, MAX</b>	
<b>50 VOL % TEMP WATER SOLN</b>	<b>- 34</b>
<b>30 % VOL % WATER SOLN</b>	<b>- 14.5</b>
<b>.PH OF 30 VOL % WATER SOLN</b>	<b>7.0 – 11</b>
<b>BOILING POINT, °C</b>	<b>155</b>
<b>ORIGINAL LIQUOR, MIN</b>	

### APPROVED BY

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- M/S DAEWOO
- M/S IND AUTO LTD

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# HP Lubricants - Product Data Sheet



## HP KOOLGARD P

- HP KOOLGARD P IS BORATE SILICATE, PHOSPHATE AND AMINE FREE PREMIUM COOLANT.
  - MEETS JIS K 2234 OF 1994
  - RECOMMENDED FOR USE IN RADIATORS OF ALL DIESEL VEHICLES, PASSENGER CARS, JEEPS VANS & TEMPOS.
  - HP KOOLGARD P A COOLANT CONCENTRATED, WHICH IS TO BE USED IN DILUTION RATION OF 20 % TO 50 % WITH WATER OR AS PER VEHICLE MANUFACTURES RECOMMENDATION.
- EASY MISCIBILITY WITH WATER
  - EFFECTIVE COOLING
  - GOOD CHEMICAL STABILITY
  - HIGH BOILING POINT & LOW FREEZING POINT
  - PROTECT RADIATOR AGAINST RUST & CORROSION.
  - ENVIRONMENT FRIENDLY COOLANT

<b>APPEARANCE</b>	<b>BRIGHT AND CLEAR</b>
<b>COLOUR</b>	<b>GREEN</b>
<b>FREEZING TEMP, °C, MAX</b>	
<b>50 VOL % TEMP WATER SOLN</b>	<b>- 34</b>
<b>30 % VOL % WATER SOLN</b>	<b>- 14.5</b>
<b>.PH OF 30 VOL % WATER SOLN</b>	<b>7.0 – 11.0</b>
<b>BOILING POINT, °C</b>	<b>155</b>
<b>ORIGINAL LIQUOR, MIN</b>	

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# HP Lubricants - Product Data Sheet



## HP RADIATOR PROTECTOR

- HP RADIATOR PROTECTOR IS A LIQUID RUST PREVENTIVE AND DESEALING AGENT.
- RECOMMENDED FOR ALL AUTOMOTIVE & INDUSTRIAL RADIATORS.
- GOOD ANTI – RUST PROPERTIES
- EFFECTIVE SEALANT

<b>APPEARANCE</b>	<b>CLEAR</b>
<b>COLOUR</b>	<b>ORANGISH YELLOW LIQUID</b>
<b>.PH OF PRODUCT</b>	<b>8.5 – 9.5</b>
<b>DENSITY @ 29 °C</b>	<b>1.16</b>

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- M/S BAJAJ TEMPO

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# HP Lubricants - Product Data Sheet



## HP SUPER DUTY BRAKE FLUID DOT – 3

- HP SUPER DUTY BRAKE FLUID DOT – 3 IS A SUPERIOR QUALITY SYNTHETIC FLUID MEANT FOR THE HYDRAULIC BRAKES OF AUTOMOBILES
- MEETS US DEPT. OF TRANSPORTATION'S STRINGENT SPECIFICATION FMVSS 116 DOT 3. IT ALSO MEETS IS : 8654 - 1986 & SAVE J1703 F SPECIFICATIONS.
- RECOMMENDED FOR ALL AUTOMOBILES HAVING HYDRAULIC BRAKES
  - EXCEPTIONAL THERMAL STABILITY
  - EXCELLENT CHEMICAL STABILITY
  - GOOD WATER TOLERANCE
  - GOOD FLUIDITY AT LOW TEMPERATURES

<b>KINEMATIC VISCOSITY, CST.</b>	
<b>@ 40 °C</b>	<b>1500 MAX</b>
<b>@ 100°C</b>	<b>1.5 MIN</b>
<b>EQUILIBRIUM REFLUX B.P °C, MIN</b>	<b>210</b>
<b>WET E. REFLUX B.P °C MIN</b>	<b>140</b>
<b>.PH</b>	<b>7.0 – 11.5</b>
<b>COLOUR</b>	<b>RED</b>

### APPROVED BY

M/S TELCO  
M/S SWARAJ MAZDA  
M/S IND AUTO LTD  
M/S HMT  
M/S HM  
M/S ASHOK LEYLAND

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M/S VOLTAS LTD  
M/S BEML  
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M/S VST TILLERS  
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# HP Lubricants - Product Data Sheet



## HP SUPER DUTY BRAKE FLUID DOT - 4

- HP SUPER DUTY BRAKE FLUID DOT – 4 IS A SUPERIOR QUALITY SYNTHETIC FLUID MEANT FOR THE HYDRAULIC BRAKES OF AUTOMOBILES
- MEETS US DEPT. OF TRANSPORTATION'S STRINGENT SPECIFICATION FMVSS 116 DOT 4. IT ALSO MEETS IS : 8654 – 1986 & SAE J1703 F SPECIFICATIONS.
- RECOMMENDED FOR ALL AUTOMOBILES HAVING HYDRAULIC BRAKES
  - EXCEPTIONAL THERMAL STABILITY
  - EXCELLENT CHEMICAL STABILITY
  - GOOD WATER TOLERANCE
  - GOOD FLUIDITY AT LOW TEMPERATURES

<b>KINEMATIC VISCOSITY, CST.</b>	
<b>@ 40 °C</b>	<b>1800 MAX</b>
<b>@ 100°C</b>	<b>1.5 MIN</b>
<b>EQUILIBRIUM REFLUX B.P °C, MIN</b>	<b>230</b>
<b>WET E. REFLUX B.P °C MIN</b>	<b>155</b>
<b>.PH</b>	<b>7.0 – 11.5</b>
<b>COLOUR</b>	<b>RED</b>

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# HP Lubricants - Product Data Sheet



## HP SHOCK ABSORBER OIL LIGHT, HEAVY

- HP SHOCK ABSORBER OIL LIGHT, HEAVY ARE SHOCK ABSORBER OILS WITH EXCELLENT DAMPING EFFECT.
- RECOMMENDED FOR FACTORY FILL SCALED FOR LIFE SHOCK ABSORBERS.
  - EXCELLENT CHEMICAL STABILITY
  - EXCELLENT SEAL COMPATIBILITY
  - LOW POUR POINT
  - YEAR ROUND USE IN ALL WEATHER CONDITIONS

	LIGHT	HEAVY
<b>KINEMATIC VISCOSITY, CST</b>		
<b>@ 40 °C</b>	11 – 12.5	18.1 – 21.3
<b>@ 100°C</b>	2.85	3.3 MIN
<b>VISCOSITY INDEX , MIN</b>	45	45
<b>FLASH POINT, (COC), °C, MIN</b>	145	160
<b>POUR POINT, °C, MAX</b>	- 40	-37
<b>ANILINE POINT, °C</b>	71 - 82	71 – 82
<b>SAPONIFICATION NO, MG KOH/G</b>	5.5 – 7.0	5.5 – 7.0

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# HP Lubricants - Product Data Sheet



## HP SHOCK ABSORBER OIL AW

- HP SHOCK ABSORBER OIL AW IS SHOCK ABSORBER OILS WITH EXCELLENT DAMPING EFFECT.
- THIS PRODUCT IS SPECIALLY DEVELOPED FOR ALL WEATHER PERFORMANCE
  - EXCELLENT CHEMICAL STABILITY
  - EXCELLENT SEAL COMPATIBILITY
  - LOW POUR POINT
  - YEAR ROUND USE IN ALL WEATHER CONDITIONS

<b>KINEMATIC VISCOSITY, CST</b>	
<b>@ 40 °C</b>	<b>11.5 – 13.1</b>
<b>@ 100°C</b>	<b>2.8 MIN</b>
<b>VISCOSITY INDEX , MIN</b>	<b>45</b>
<b>FLASH POINT, (COC), °C, MIN</b>	<b>149</b>
<b>POUR POINT, °C, MAX</b>	<b>- 45</b>
<b>ANILINE POINT, °C</b>	<b>74 - 82</b>
<b>SAPONIFICATION NO, MG KOH/G</b>	<b>3.5 – 7.0</b>
<b>COLOUR</b>	<b>ORANGE</b>

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M/S GABRIEL**

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# HP Lubricants - Product Data Sheet



## HP SHOCK ABSORBER OIL TELE

- HP SHOCK ABSORBER OIL TELE IS SHOCK ABSORBER OIL WITH EXCELLENT DAMPING EFFECT.
- RECOMMENDED FOR TELESCOPIC SHOCK ABSORBERS. SPECIALLY DEVELOPED FOR M/ S ESCORTS
  - EXCELLENT CHEMICAL STABILITY
  - EXCELLENT SEAL COMPATIBILITY
  - LOW POUR POINT
  - YEAR ROUND USE IN ALL WEATHER CONDITIONS

<b>KINEMATIC VISCOSITY, CST</b>	
<b>@ 40 °C</b>	<b>35 – 40</b>
<b>@ 100°C</b>	<b>5.75 MIN</b>
<b>VISCOSITY INDEX , MIN</b>	<b>100</b>
<b>FLASH POINT, (COC), °C, MIN</b>	<b>200</b>
<b>POUR POINT, °C, MAX</b>	<b>- 21</b>
<b>ANILINE POINT, °C</b>	<b>95 MIN</b>
<b>SAPONIFICATION NO, MG KOH/G</b>	<b>5.0 – 6.0</b>

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M/S ENDURANCE SYSTEMS LTD**

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# HP Lubricants - Product Data Sheet



## HP SHOCK ABSORBER OIL GB

- HP SHOCK ABSORBER OIL GB IS SHOCK ABSORBER OIL WITH EXCELLENT DAMPING EFFECT.
- THIS PRODUCT IS SPECIALLY DEVELOPED FOR M/S GABRIEL
  - EXCELLENT CHEMICAL STABILITY
  - EXCELLENT SEAL COMPATIBILITY
  - LOW POUR POINT
  - YEAR ROUND USE IN ALL WEATHER CONDITIONS

<b>KINEMATIC VISCOSITY, CST</b>	
<b>@ 40 °C</b>	<b>11.5 – 13.1</b>
<b>@ 100°C</b>	<b>2.8 MIN</b>
<b>VISCOSITY INDEX , MIN</b>	<b>45</b>
<b>FLASH POINT, (COC), °C, MIN</b>	<b>149</b>
<b>POUR POINT, °C, MAX</b>	<b>- 36</b>
<b>ANILINE POINT, °C</b>	<b>74 – 7.0</b>
<b>SAPONIFICATION NO, MG KOH/G</b>	<b>3.5 – 7.0</b>

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# HP Lubricants - Product Data Sheet



## HP CHASSIS GREASE

- HP CHASSIS GREASE IS A CALCIUM SOAP GREASE
- DESIGNED FOR GENERAL CHASSIS LUBRICATION. ALSO RECOMMENDED FOR THE LUBRICATION OF TRACK ROLLERS AND IDLERS OF CERTAIN CRAWLER TYPE TRACTORS.
- EXCELLENT WATER RESISTANCE
- LASTING QUALITIES IN SPRING SHACKLES AND STEERING CONNECTIONS.
- ACTS AS PROTECTIVE LAYER ON EXPOSED PARTS .
- CLINGS TO BEARING SURFACES.

<b>APPEARANCE</b>	<b>BRIGHT, SHINY AND TACKY</b>
<b>CONSISTENCY OF THE GREASE, A 25 ± 0.5 °C, 0.1 MM UNITS WORKED, 60 STROKES MIN MAX</b>	<b>290 320</b>
<b>DROPPING POINT, °C MIN</b>	<b>90</b>
<b>FREE ALKALINITY, AS CA (OH)<sub>2</sub>, % WT, MAX</b>	<b>0.15</b>
<b>FREE ORGANIC ACIDITY, AS, OLEIC ACID, % WT</b>	<b>0.15</b>

**APPROVED BY  
M/S SWARAJ MAZDA**

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# HP Lubricants - Product Data Sheet



## HP WHEEL BEARING GREASE

- HP WHEEL BEARING GREASE IS A SODIUM SOAP GREASE
- MEETS IS : 10647 : 1988
- RECOMMENDED FOR LUBRICATION OF UNIVERSAL JOINTS, WHEEL BEARINGS, HIGH TEMPERATURE CLUTCH RELEASE, GENERATOR AND FAN BEARINGS.
  - TROUBLE FREE LONG SERVICE
  - GOOD STRUCTURAL STABILITY UNDER HIGH TEMPERATURE OR CENTRIFUGAL FORCE
  - EASILY PUMPABLE & DO NOT CHANNEL WHEN COLD

<b>APPEARANCE</b>	<b>SMOOTH AND HOMOGENEOUS</b>
<b>CONSISTENCY OF THE GREASE, A 25 ± 0.5 °C, 0.1 MM UNITS UN WORKED, 60 STROKES MIN MAX</b>	<b>240 280</b>
<b>WORKED, 60 STROKES MIN MAX</b>	<b>250 280</b>
<b>DROPPING POINT, °C MIN</b>	<b>178</b>
<b>CORROSION COPPER STRIP, @ 100°C FOR 24 HRS, MAX</b>	<b>NEGATIVE</b>
<b>FREE ALKALINITY, AS CA (OH)<sub>2</sub>, % WT, MAX</b>	<b>0.25</b>
<b>FREE ORGANIC ACIDITY, AS, OLEIC ACID, % WT</b>	<b>0.25</b>
<b>TILTED WHEEL BEARING TEST : LEAKAGE SLUMP TEST, MAX</b>	<b>5 PASS</b>
<b>HEAT STABILITY, @ 100°C FOR 30 HRS, % WT OIL SEPARATED, MAX</b>	<b>6</b>
<b>WATER, % WT MAX</b>	<b>0.1</b>

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# HP Lubricants - Product Data Sheet



## HP MULTIPURPOSE GREASE 2, 3

- HP MULTIPURPOSE GREASE 2,3 ARE PREMIUM QUALITY MULTIPURPOSE AUTOMOTIVE GREASES BASED ON LITHIUM SOAP.
- RECOMMENDED FOR ALL CLASSES OF SERVICE IN AUTOMOTIVE LUBRICATION
- MEETS IS : 12203 : 1987
  - HIGH DROP POINT
  - GOOD THERMAL STABILITY
  - HIGH DEGREE OF RESISTANCE TO OXIDATION
  - PROTECTION AGAINST RUSTING & CORROSION

	2	3
<b>APPEARANCE</b>	<b>SMOOTH AND HOMOGENEOUS</b>	<b>SMOOTH AND SLIGHTLY FIBROUS</b>
<b>CONSISTENCY OF THE GREASE, A 25 ± 0.5 °C, 0.1 MM UNITS UN WORKED,</b>	<b>SHALL NOT DIFFER FROM WORKED 60 X BY MORE THEN 10 UNITS</b>	<b>220 MIN</b>
<b>WORKED, 60 STROKES MIN MAX</b>	<b>265 280</b>	<b>230 250</b>
<b>WORKED 10000 STROKES</b>	<b>SHALL NOT DIFFER FROM WORKED 60 X BY MORE THAN 30 UNITS</b>	<b>-</b>
<b>DROPPING POINT, °C MIN</b>	<b>180</b>	<b>150</b>
<b>FREE ALKALINITY, AS LIOH, % WT, MAX</b>	<b>0.1</b>	<b>0.15</b>
<b>FREE ORGANIC ACIDITY, AS, OLEIC ACID, % WT</b>	<b>NIL</b>	<b>-</b>
<b>HEAT STABILITY, @ 100°C FOR 30 HRS, % WT OIL SEPARATED, MAX</b>	<b>5</b>	<b>-</b>

APPROVED BY  
M/S ESCORTS  
M/S HMTM/S EICHER  
M/S PUNJAB TRACTORS  
M/S ASHOK LEYLAND

M/S TAFE  
M/S DAEWOO  
M/S BAJAJ TEMPO  
M/S HINDUSTAN MOTORS  
M/S SWARAJ MAZDA  
M/S SIMPSON  
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# HP Lubricants - Product Data Sheet



## HP LAAL GHODA AP GREASE

- HP LAAL GHODA AP GREASE PREMIUM QUALITY ALL PURPOSE GREASE BASED ON LITHIUM SOAP
- RECOMMENDED FOR ALL AUTOMOTIVE GREASING PURPOSE
  - THE PRODUCT IS HAVING A DROP POINT OF 180
  - EXCELLENT WATER RESISTANCE AND THERMAL STABILITY
  - HIGH DEGREE OF RESISTANCE TO OXIDATION CORROSION
  - DOES NOT SEPARATE UNDER HIGH TEMPERATURE AND CENTIFUGAL FORCE

<b>APPEARANCE</b>	<b>LIGHT YELLOW, SMOOTH &amp; UNIFORM</b>
<b>CONSISTENCY OF THE GREASE, @ 25 ± 0.5 °C, 0.1 MM UNITS UN WORKED,</b>	<b>SHALL NOT DIFFER FROM WORKED 60 X BY MORE THEN 10 UNITS</b>
<b>WORKED, 60 STROKES MIN MAX</b>	<b>250 275</b>
<b>WORKED 10000 STROKES</b>	<b>SHALL NOT DIFFER FROM WORKED 60 X BY MORE THAN 30 UNITS</b>
<b>FREE ALKALINITY, AS LI(OH), % WT, MAX</b>	<b>0.1</b>
<b>FREE ORGANIC ACIDITY, AS, OLEIC ACID, % WT</b>	<b>NIL</b>
<b>HEAT STABILITY, @ 100°C FOR 30 HRS, % WT OIL SEPARATED, MAX</b>	<b>5</b>

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# HP Lubricants - Product Data Sheet



## HP MULTIPURPOSE GREASE 000

- HP MULTIPURPOSE GREASE 000 IS SEMIFLUID GREASE RECOMMENDED FOR SHUTTLE LESS LOOMS, RAIL FLANGE LUBRICATOR AND PRINTING PRESS
  - ENOUGH FLUIDITY REQUIRED FOR THE OPERATION
  - GOOD THERMAL STABILITY
  - HIGH DEGREE OF RESISTANCE TO OXIDATION
  - PROTECTION AGAINST RUSTING & CORROSION

<b>APPEARANCE</b>	<b>SMOOTH &amp; UNIFORM</b>
<b>CONSISTENCY OF THE GREASE, @25°C WITH 75 GM LOAD</b>	<b>35 – 45</b>
<b>DROPPING POINT, °C, MIN</b>	<b>120</b>
<b>FREE ALKALINITY, AS NA (OH) % WT</b>	<b>0.01 – 0.1</b>

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# HP Lubricants - Product Data Sheet



## HP LITHON RR - 3

- HP LITHON RR – 3 IS A PREMIUM QUALITY LITHIUM BASE MULTIPURPOSE GREASE
- MEETS AARM – 942 ( MODIFIED ), IS 7623 : 1985 SPECIFICATION AND WD – 17 OF INDIAN RAILWAYS.
- RECOMMENDED FOR USE IN ANTIFRICTION BEARINGS OF RAILWAY AXLE BOXES, HEAVY DUTY WHEEL BEARINGS OF ROAD TRANSPORT VEHICLES, DIESEL/ELECTRIC LOCOMOTIVE ROLLER BEARINGS, CONSTRUCTION MACHINERY, CRANES, BLOWERS AND ELECTRIC MOTORS.
  - PROLONGED REGREASING PERIOD
  - EXCELLENT SHEAR STABILITY
  - ENHANCED COMPONENT LIFE
  - SURFACE ADHESION
  - REDUCED DOWN – TIME
  - NON AGEING
  - SUBSTANTIAL SAVING IN MAINTENANCE AND RUNNING COSTS
  - EXCELLENT MECHANICAL & STRUCTURAL STABILITY

APPEARANCE	SMOOTH & UNIFORM
CONSISTENCY OF THE GREASE, @ 25 ± 0.5 °C, 0.1 MM UNITS WORKED, 60 STROKES MIN MAX	220 250
WORKED 10000 STROKES	SHALL NOT DIFFER FROM WORKED 60 X BY MORE THAN 25 UNITS
DROPPING POINT, °C, MIN	180
FREE ALKALINITY, AS LIOH, % WT, MAX	0.2
FREE ORGANIC ACIDITY, AS, OLEIC ACID, % WT	0.3
CORROSION COPPER STRIP, @ 100°C FOR 24 HRS,	NEGATIVE
HEAT STABILITY, @ 100°C FOR 30 HRS, % WT OIL SEPARATED, MAX	5

APPROVED BY  
M/S ASHOK LEYLAND  
M/S SWARAJ MAZDA

HP LITHON RR 3 IS ALSO APPROVED BY INDIAN RAILWAYS FOR USE IN AUTOMOTIVE AND M & P APPLICATIONS.  
THE PRODUCT IS UNDER TRIAL IN ROLLING STOCK APPLICATION AT EASTERN RAILWAYS

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# HP Lubricants - Product Data Sheet



## HP LAAL GHODA TRACTOR OIL 40

- HP LAAL GHODA TRACTOR OIL IS SPECIALLY DEVELOPED ENGINE OIL FOR TRACTORS.
- MEETS APPI CD, US MILITARY MIL – L – 4599 B & E- DL 2 OF IS : 13656 – 1993 SPECTIFICATIONS.
- RECOMMENDED FOR USE AS CRANKCASE OIL IN ALL TRACTORS.
  - SPECIALLY DESIGNED OIL FOR TRACTOR ENGINES
  - OUTSTANDING VISCOSITY RELATED PERFORMANCE
  - ECONOMICALLY PRICED TO SUIT INDIAN FARMER

<b>KINEMATIC VISCOSITY, CST. @ 100°C</b>	<b>13.5-16.0</b>
<b>VISCOSITY INDEX, MIN</b>	<b>90</b>
<b>FLASH POINT, (COC), °C, MIN</b>	<b>215</b>
<b>POUR POINT, °C, MAX</b>	<b>- 6</b>
<b>SULPHATED ASH, % WT, MAX</b>	<b>1.46</b>
<b>TBN, MG KOH/G, MIN</b>	<b>9</b>

**PRODUCT IN ECONOMY RANGE**

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# HP Lubricants - Product Data Sheet



## HYLUBE SUPERTRAK 20W 40

- HYLUBE SUPERTRAK 20 W – 40 IS UNIVERSAL TRACTOR OIL FOR ENGINE, TRANSMISSION, FINAL DRIVE AND HYDRAULIC SYSTEM
- MEETS API CD/SE, US MILITARY, MIL –L – 2104 C & E – DL 2/ E PL 2 OF IS : 13656 – 1993 SPECIFICATIONS
- SPECIALLY DEVELOPED TO TAKE CARE OF ENTIRE LUBRICATION REQUIREMENTS OF A TRACTOR AVOIDING ANY MIX – UP
  - EXCEPTION THERMAL & OXIDATION STABILITY
  - OUTSTANDING VISCOSITY RELATED PERFORMANCE

<b>KINEMATIC VISCOSITY, CST. @ 100°C</b>	<b>14 –15</b>
<b>VISCOSITY INDEX, MIN</b>	<b>110</b>
<b>FLASH POINT, (COC), °C, MIN</b>	<b>200</b>
<b>POUR POINT, °C, MAX</b>	<b>-21</b>
<b>SULPHATED ASH, % WT, MAX</b>	<b>1.46</b>
<b>TBN, MG KOH/G, MIN</b>	<b>9</b>

**APPROVED BY  
M/S TAFE**

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# HP Lubricants - Product Data Sheet



## HP SUPERTRAN

- HP SUPERTRAN IS A UNIVERSAL TRACTOR TRANSMISSION OIL
- MEETS NEW HOLLAND FORD : M2C 86/ B/ C, M2 C 134 C/D  
JOHN DEERE : J20C  
MASSEY FERGUSON : M35  
APIGL – 4 (LOW SPEED HIGH TROQUE)
- RECOMMENDED FOR USE IN NEW GENERATION TRACTORS AS MULTIPURPOSE OIL FOR TRANSMISSION, HYDRAULIC DIFFERENTIAL, WER – CLUTCHES & BRAKES. ALSO RECOMMENDED FOR USE IN EARTH MOVING & CONSTRUCTION EQUIPMENTS AS AXLE OIL
  - A VERY HIGH LEVEL OF ANTISQUAK PERFORMANCE FOR NOISE FREE WET BRAKE OPERATION
  - BALANCED FRICTIONAL PROPERTIES FOR POWER TAKE OFF CLUTCHES AND POWERSHIFT TRANSMISSIONS
  - STRONG DRIVELINE PROTECTION FOR MAXIMUM TRANSMISSION LIFE
  - A HIGH LEVEL OF CORROSION AND RUST INHIBITION AND WATER TOLERANCE

<b>KINEMATIC VISCOSITY, CST. @ 100°C</b>	<b>10</b>
<b>VISCOSITY INDEX, Typ</b>	<b>125</b>
<b>FLASH POINT, (COC), °C, MIN</b>	<b>200</b>
<b>POUR POINT, °C, MAX</b>	<b>-37</b>
<b>CORROSION, COPPER STRIP @ 150°C , 3HRS, TYP</b>	<b>1A</b>

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# HP Lubricants - Product Data Sheet



## HP PUMPSET OIL (LG) 20W 40

- HP PUMPSET OIL LG IS A GOOD QUALITY ENGINE OIL SPECIALLY DESIGNED FOR AGRUCULTURAL PUMPSET DIESEL ENGINES.
- MEETS API CC /SC, US MILITARY MIL – 2104 B & E – PL1/E –DL 1 OF IS : 13656 – 1993 SPECIFICATIONS
- RECOMMENDED FOR USE IN DIESEL ENGINES EQUIPPED ON AGRICULTURAL PUMPSETS.
  - CLEAN ENGINE WITH LESSER DEPOSITS
  - GOOD ANTI – OXIDANT PROPERTIES
  - ANTIWEAR PROPERTIES
  - SUPERIOR LUBRICITY

<b>KINEMATIC VISCOSITY, CST. @ 100°C</b>	<b>13.5 – 16</b>
<b>VISCOSITY INDEX, MIN</b>	<b>110</b>
<b>FLASH POINT, (COC), °C, MIN</b>	<b>200</b>
<b>POUR POINT, °C, MAX</b>	<b>-21</b>
<b>SULPHATED ASH, % WT, MAX</b>	<b>0.8</b>
<b>TBN, MG KOH/G MIN</b>	<b>4.3</b>
<b>COLOUR</b>	<b>RED</b>

**PRODUCT IN ECONOMY RANGE**

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# HP Lubricants - Product Data Sheet



## HYLUBE HDX MULTIGRADE 20 W 40

- MULTIGRADE ENGINE OILS SPECIALLY DEVELOPED FOR DEFENCE APPLICATIONS
- HYLUBE HDX MULTIGRADE 20 W 40
- MEETS API CC/SC, MIL – L 2104 B AND E- DL – 1 / E – PL 1 OF IS : 13656 : 1993 SPECIFICATIONS

<b>KINEMATIC VISCOSITY, CST. @ 100°C</b>	<b>12.5 – 16.3</b>
<b>VISCOSITY INDEX, MIN</b>	<b>95</b>
<b>FLASH POINT, (COC), °C, MIN</b>	<b>200</b>
<b>POUR POINT, °C, MAX</b>	<b>-18</b>
<b>TBN, MG KOH/G MIN</b>	<b>4.5</b>

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# HP Lubricants - Product Data Sheet



## HYLUBE HDX MULTIGRADE 20 W 50

- MULTIGRADE ENGINE OILS SPECIALLY DEVELOPED FOR DEFENCE APPLICATIONS
- HYLUBE HDX MULTIGRADE 20 W 50 MEETS API CC/SC, MIL – L 2104 B AND E- DL – 1 / E – PL 1 OF IS : 13656 : 1993 SPECIFICATIONS

<b>KINEMATIC VISCOSITY, CST. @ 100°C</b>	<b>16.3 – 21.9</b>
<b>VISCOSITY INDEX, MIN</b>	<b>90</b>
<b>FLASH POINT, (COC), °C, MIN</b>	<b>200</b>
<b>POUR POINT, °C, MAX</b>	<b>-9</b>
<b>TBN, MG KOH/G MIN</b>	<b>5.67</b>

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# HP Lubricants - Product Data Sheet



## HYLUBE HDX MULTIGRADE 10 W 30

- MULTIGRADE ENGINE OILS SPECIALLY DEVELOPED FOR DEFENCE APPLICATION
- HYLUBE HDX MULTIGRADE 10 W 50 MEETS API CC/SC, MIL – L 2104 B AND E- DL – 1 / E – PL 1 OF IS : 13656 : 1993 SPECIFICATIONS

<b>KINEMATIC VISCOSITY, CST. @ 100°C</b>	<b>9.3 – 12.5</b>
<b>VISCOSITY INDEX, MIN</b>	<b>100</b>
<b>FLASH POINT, (COC), °C, MIN</b>	<b>190</b>
<b>POUR POINT, °C, MAX</b>	<b>-27</b>
<b>TBN, MG KOH/G MIN</b>	<b>5.8</b>

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# HP Lubricants - Product Data Sheet



## HP MILCY SUPER 20 W 40

- HIGH PERFORMANCE MULTIRADE ENGINE OILS SPECIALLY DEVELOPED FOR DEFENCE APPLICATIONS
- HP MILCY SUPER 20 W 50 MEETS E- DL – 3 OF IS : 13656 : 1993 SPECIFICATIONS

<b>KINEMATIC VISCOSITY, CST. @ 100°C</b>	<b>12.5 – 16.3</b>
<b>VISCOSITY INDEX, MIN</b>	<b>95</b>
<b>FLASH POINT, (COC), °C, MIN</b>	<b>200</b>
<b>POUR POINT, °C, MAX</b>	<b>-18</b>
<b>TBN, MG KOH/G MIN</b>	<b>9.24</b>

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# HP Lubricants - Product Data Sheet



## HP GEAR OIL XP 80 W 90

- MULTIRADE GEAR OIL SPECIALLY DEVELOPED FOR DEFENCE APPLICATIONS
- HP GEAR OIL XP 80 W 90 MEETS API GL – 5 AND MIL – L 2105 D SPECIFICATIONS

<b>KINEMATIC VISCOSITY, CST. @ 100°C</b>	<b>13.5 – 18.3</b>
<b>VISCOSITY INDEX, MIN</b>	<b>90</b>
<b>FLASH POINT, (COC), °C, MIN</b>	<b>165</b>
<b>POUR POINT, °C, MAX</b>	<b>-21</b>

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# HP Lubricants - Product Data Sheet



## HP GEAR OIL EP 140

- GEAR OIL SPECIALLY DEVELOPED FOR DEFENCE APPLICATIONS
- HP GEAR OIL EP 140 MEETS E- DL – 3 OF IS : 13656 : 1993 SPECIFICATIONS

<b>KINEMATIC VISCOSITY, CST. @ 100°C</b>	<b>24-41</b>
<b>VISCOSITY INDEX, MIN</b>	<b>85</b>
<b>FLASH POINT, (COC), °C, MIN</b>	<b>190</b>
<b>POUR POINT, °C, MAX</b>	<b>-3</b>

**APPROVED BY  
CQAPP, KANPUR FOR SUPPLIES TO DEFENCE**

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# HP Lubricants - Product Data Sheet



## HP GREASE LG 280

- A HIGH QUALITY GREASE SPECIALLY DEVELOPED FOR DEFENCE APPLICATIONS
- HP GREASE LG 280 MEETS IS : 507 : 1993 SPECIFICATIONS

APPEARANCE	SMOOTH & UNIFORM
TYPE OF SOAP	CALCIUM
CONSISTENCY OF THE GREASE, A $25 \pm 0.5$ °C, 0.1 MM UNITS WORKED, 60 STROKES MIN MAX	265 295
DROPPING POINT, °C MIN	100
FREE ALKALINITY, AS CA (OH) <sub>2</sub> , % WT, MAX	0.1
FREE ORGANIC ACIDITY, AS, OLEIC ACID, % WT	0.4

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# HP Lubricants - Product Data Sheet



## HP GREASE SG 240

- A HIGH QUALITY GREASE SPECIALLY DEVELOPED FOR DEFENCE APPLICATIONS
- HP GREASE SG 240 MEETS IS : 10647 : 1983(1998)

<b>APPEARANCE</b>	<b>DARK BROWN IN THIN FILM, SMOOTH AND HOMOGENEOUS</b>
<b>TYPE OF SOAP</b>	<b>SODIUM</b>
<b>CONSISTENCY OF THE GREASE, A 25 ± 0.5 °C, 0.1 MM UNITS UN WORKED</b>	<b>SHALL NOT DIFFER BY MORE THAN 25 UNITS FROM 60 STROKES</b>
<b>WORKED, 60 STROKES MIN MAX</b>	<b>250 280</b>
<b>WORKED, 100000 STROKES</b>	<b>SHALL NOT DIFFER FROM WORKED 60X BY MORE THAN 25 UNITS</b>
<b>DROPPING POINT, °C MIN</b>	<b>180</b>

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# HP Lubricants - Product Data Sheet



## HP RACER 2 SM

- SPECIALLY DEVELOPED 2 – STROKE ENGINE OIL FOR USE IN SNOW MOBILE RUN BY INDIAN ARMY
- HP RACER 2 SM MEETS API TC & JASO FC SPECIFICATIONS

<b>KINEMATIC VISCOSITY,CST.@100°C</b>	<b>6.86</b>
<b>VISCOSITY INDEX, MIN</b>	<b>150</b>
<b>FLASH POINT, (COC), °C, MIN</b>	<b>120</b>
<b>POUR POINT, °C, MAX</b>	<b>-51</b>
<b>TBN, MG KOH/G, MIN</b>	<b>0.47</b>

**APPROVED BY  
THE PRODUCT IS CLEARED BY CQAPP, KANPUR AND  
CURRENTLY UNDER TRAIL IN LEH ON SNOW MOBILES**

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# HP Lubricants - Product Data Sheet



## HP LITHON RR 3

- PREMIUM QUALITY GREASE DEVELOPED FOR DEFENCE APPLICATION
- HP LITHON RR 3 MEETS AARM 942 (MODIFIED ) SPECIFICATIONS

APPEARANCE	SMOOTH AND UNIFORM
CONSISTENCY OF THE GREASE, A $25 \pm 0.5$ °C, 0.1 MM UNITS WORKED, 60 STROKES MIN MAX	220 250
WORKED, 100000 STROKES	SHALL NOT DIFFER FROM WORKED 60X BY MORE THAN 25 UNITS
DROPPING POINT, °C MIN	180

APPROVED BY  
CQAPP, KANPUR FOR SUPPLIES TO DEFENCE

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# HP Lubricants - Product Data Sheet



## HP SUPER DUTY BRAKE FLUID DOT 3

- HYDRAULIC BRAKE FLUID SPECIALLY DEVELOPED FOR DEFENCE APPLICATION
- HP SUPER DUTY BRAKE FLUID DOT 3 MEETS IS : 8654 : 1986 SPECIFICATIONS

<b>KINEMATIC VISCOSITY, CST.</b>	
<b>@ 40°C</b>	<b>1500MAX</b>
<b>@ 100°C</b>	<b>1.5 MIN</b>
<b>EQUILIBRIUM REFLUX B.P</b>	<b>210</b>
<b>WET E. REFLUX B.P, °C, MIN</b>	<b>140</b>
<b>.PH</b>	<b>7.0 – 11.5</b>
<b>COLOUR</b>	<b>RED</b>

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# HP Lubricants - Product Data Sheet



## HP SUPERTRAN

- MULTIPURPOSE TRANSMISSION OIL DEVELOPED FOR DEFENCE APPLICATION
- HP SUPERTRAN MEETS JDM J 20 A/C SPECIFICATIONS

<b>KINEMATIC VISCOSITY,CST.@100°C</b>	<b>9.1 – 9.7</b>
<b>VISCOSITY INDEX, MIN</b>	<b>125</b>
<b>FLASH POINT, (COC), °C, MIN</b>	<b>200</b>
<b>POUR POINT, °C, MAX</b>	<b>-37</b>

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# HP Lubricants - Product Data Sheet



## TURBINE OILS

### TURBINOL 32,46,57,68,77

TURBINOL GRADES ARE PREMIUM QUALITY TURBINE OILS MADE FROM BEST PARAFFINIC BASE STOCKS HAVING EXCELLENT OXIDATION AND CHEMICAL STABILITY. THESE PROPERTIES ARE FURTHER ENHANCED WITH INCORPORATION OF CAREFULLY SELECTED ANTIOXIDANTS, RUST INHIBITORS AND ANTI FOAM AGENTS. A BALANCED ADDITIVE PACKAGE ALSO IMPARTS EXCELLENT DEMULSIBILITY AND QUICK RELEASE OF ENTRAINED AIR MAKING IT A LONG SERVICE OIL.

TURBINOL GRADES MEET IS :1012- 1987 (REAFFIRMED 1993 ), BS: 489 – 1993 & SIEMENS TLV 9013 04 SPECIFICATIONS. IT ALSO MEETS THE REQUIREMENTS OF BHEL & GE TURBINES.

TURBINOL GRADES ARE RECOMMENDED FOR USE IN ALL TURBINES WITHOUT GEARBOX. THEY ARE SUITABLE FOR LUBRICATION OF PLAIN AS WELL AS JOURNAL TYPE BEARINGS IN THE STEAM, GAS AND HYDRAULIC TURBINES AND CAN BE USED IN HYDRAULIC SYSTEMS REQUIRING VERY LONG LIFE LUBRICANT OF OUTSTANDING PROPERTIES. TURBINOL 77 IS ALSO RECOMMENDED FOR USE IN EXPRESSORS / EXHAUSTORS AND GOVERNORS OF DIESEL LOCOMOTIVES OPERATING IN INDIAN RAILWAYS.

TURBINOL 46 , 68 GRADES ARE APPROVED BY BHEL, SIEMENS, DLF INDUSTRIES FOR USE IN THEIR STEAM TURBINES AND APE BELLIS INDIA LTD & TRIVENI ENGINEERING FOR THEIR TURBINES. TURBINOL 68 GRADE IS RECOMMENDED BY GEC ALSTHOM, U.K, TURBINOL 46, 77 GRADES ARE APPROVED BY WORTHINGTON PUMP INDIA LTD, FOR THEIR VERTICAL PUMPS.

CONT...

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# HP Lubricants - Product Data Sheet



## TURBINE OILS

### TURBINOL XT 32, 46, 68

THE EXCELLENCE OF TURBINOL XT GRADES IS THE COMBINED RESULT OF SELECTED STABLE BASE OILS, EFFICIENT REFINING METHODS AND SUPERIOR ADDITIVES. TURBINOL XT GRADES ARE MADE FROM THE FINEST PARFFINIC BASE STOCKS HAVING EXCELLENT OXIDATION AND CHEMICAL STABILITY, FURTHER ENHANCED BY MODERN REFINING TECHNIQUES TO REMOVE UNSUITABLE AND UNDESIRABLE COMPONENTS. THESE OILS CONTAIN ANTI WEAR ADDITIVES, HAVE HIGHER FZG RATING AND ARE SPECIFICALLY FORMULATED TO MEET THE REQUIREMENTS OF GEARED TURBINES.

TURBINOL XT GRADES PROVIDE FOLLOWING OUTSTANDING ADVANTAGES IN TURBINE LUBRICATION SERVICE.

- SUPERIOR PHYSICAL AND CHEMICAL STABILITY.
- HIGH OXIDATION STABILITY IN PRESENCE OF HEAT, WATER AND IMPURITIES.
- VERY GOOD ANTIWEAR CHARACTERISTICS.
- HIGH RESISTANCE TO CHANGE IN VISCOSITY.
- FULL PROTECTION AGAINST RUSTING
- EXCELLENT DEMULSIBILITY, FOAM RESISTANCE AND TENDENCY TO RELEASE ENTRAINED AIR.

TURBINOL XT GRADES MEET IS : 1012 – 1987 (REAFFIRMED 1993) AND BROWN BOVERI HTGD 90117 SPECIFICATIONS, SIEMENS TLV 9013 04 SPECIFICATION AND HAVE BEEN RECOMMENDED FOR USE IN SIEMENS TURBOSETS, WITH GEARBOX.

TURBINOL GRADES ARE RECOMMENDED FOR USE IN ALL TURBINES WITH GEAR BOX. APART THE BEARING LUBRICATION AND HYDRAULIC SYSTEM OF STEAM, GAS AND HYDRAULIC TURBINES, THESE OILS ARE FORMULATED TO TAKE CARE OF THE LUBRICATION OF THE GEARBOXES.

CONT...

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# HP Lubricants - Product Data Sheet

## TURBINE OILS



**TURBINOL XT 32 , XT 46 GRADES CARRY THE APPROVAL  
BHEL & SIEMENS FOR THEIR GEARED TURBOGENERATORS .**

PROPERTIES	TURBINOL			TURBINOL XT				
	32	46	57	68	77	32	46	68
<b>VISCOSITY,CST@ 40°C</b>	28.8-35.2	41.4-50.6	54.2-59.8	64.6-71.4	75-83	29-35	42-50	62-70
<b>VISCOSITY,INDEX,MIN</b>	100	98	95	95	95	100	98	95
<b>FLASH POINT ,COC, °C,MIN</b>	215	215	215	215	215	215	215	215
<b>POUR POINT,°C MAX</b>	(-) 6	(-) 6	(-) 6	(-) 6	(-) 6	(-) 6	(-) 6	(-) 6
<b>FZG RIG, TEST FAILURE LOAD STAGE, MIN</b>	-	-	-	-	-	11	11	11
<b>TAN, MG KOH/G, MAX</b>	0.15	0.15	0.15	0.15	0.15	0.20	0.20	0.20
<b>AIR RELEASE VALUE @ 50°C MINUTES, MAX</b>	4	4	4	11	17	4	4	11

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# HP Lubricants - Product Data Sheet



## BEARING OILS

### HP FILM OIL 46,68,100,150,220

HP FILM OIL GRADES ARE HIGHLY REFINED MINERAL OILS EXCLUSIVELY DEVELOPED FOR APPLICATION IN OIL FILM BEARINGS OF STEEL PLANTS. THESE OILS ARE BLENDED FROM SOLVENT EXTRACTED, HIGH VISCOSITY INDEX BASE STOCKS HAVING EXCELLENT DEMULSIBILITY CHARACTERISTICS. THEY ALSO POSSESS GOOD OXIDATION AND THERMAL STABILITY.

HP FILM OIL GRADES MEET INTER PLANT STANDARDISATION – STEEL INDUSTRY SPECIFICATIONS (IPSS) 1-09-001-95 (GRADE 1 TO 6 ) AND IS : 6552-1987

HP FILM OIL GRADES ARE RECOMMENDED FOR USE IN ANTIFRICTION BEARINGS, DRIVE GEAR AND PINION OF STEEL MILLS WHERE OPERATING CONDITION ARE MODERATE. THEY ARE ALSO SUITABLE FOR USE IN CIRCULATION SYSTEMS WHERE OILS WITH HIGH DEMULSIBILITY CHARACTERISTICS ARE REQUIRED.

HP FILM OIL 150,220 GRADES ARE APPROVED BY TISCO, JAMSHEDPUR

PROPERTIES	HP FILM OIL					
	32	46	68	100	150	220
VISCOSITY,CST @ 40°C	28.8-35.2	41.4-50.6	61.2-74.8	90-110	140-160	200-246
VISCOSITY,INDEX, MIN	90	90	90	90	90	90
FLASH POINT , COC, °C,MIN	190	190	190	190	200	200
POUR POINT, °C MAX	(-) 6	(-) 6	(-) 6	(-) 6	(-) 6	(-) 6
TAN, MG KOH/G, MAX	0.1	0.1	0.1	0.1	0.1	0.1
DEMULSIBILTY IN 20 MIN.ML	40-37-3 (AT 54°C)	40-37-3 (AT 54°C)	40-37-3 (AT 54°C)	40-37-3 (AT 82°C)	40-37-3 (AT 82°C)	40-37-3 (AT 82°C)

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# HP Lubricants - Product Data Sheet

## BEARING OILS



### HP STEEL 257,460,680

HP STEEL GRADES ARE PREMIUM QUALITY HEAVY DUTY BEARING AND CIRCULATING OIL. THEY HAVE HIGH VISCOSITY INDEX WITH SUPERIOR OXIDATION AND THERMAL STABILITY. THEY MEET THE REQUIREMENT OF HIGH DEMULSIBILITY, LOW FOAMING, EXCELLENT RUST PROTECTION AND GOOD FILM STRENGTH PROPERTY TO MINIMIZE WEAR IN ROLL – NECK BEARINGS OF STEEL MILLS. THE QUALITY OF THE OILS IS FURTHER ENHANCED BY THE PRESENCE OF SELECTED GRADES OF ANTI – OXIDANTS, ANTI – RUST, DEMULSIFIER AND DEFOAMANTS.

HP STEEL GRADES MEET THE REQUIREMENTS OF MORGAN BEARING LUBRICANT SPECIFIED BY MORGAN CONSTRUCTION CO., USA. THESE OILS MEET THE PERFORMANCE REQUIREMENTS OF IS : 6552-1987 AND IPSS:1-09-001-81.

THESE OILS ARE SUITABLE FOR USE IN THE MORGAN BEARINGS OF STEEL MILLS. MORGAN BEARINGS ARE USED IN THE PLATE MILL, WIRE ROD MOLL, MERCHANT MILL, BLOOMING AND BILLET MILL AND RAIL & STRUCTURAL MILL. THE VARIOUS VISCOMETRIX OF HP STEEL GRADES ARE AVAILABLE FOR THESE MILLS. THE OILS ARE ALSO RECOMMENDED FOR THOSE PLACES WHERE THE BEARING ARE UNDER HEAVY LOAD AND IN THE PRESENCE OF WATER.

PROPERTIES	HP STEEL		
	257	460	680
VISCOSITY, AT 40°C, CST	245 - 270	440 – 485	645 - 715
VISCOSITY, INDEX, MIN	95	95	95
FLASH POINT, °C, MIN	226	270	270
POUR POINT, °C MAX	(-) 6	(-) 6	(-) 6
FZG, FAILURE LOAD STAGE, MIN	5	6	6
EMULSION CHARACTERISTICS, @ 82 °C, 20 MINS, MAX	40 – 37-3	40-37-3	40-37-3

CONT...

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# HP Lubricants - Product Data Sheet

## BEARING OILS



### HP STEEL EP 100

HP STEEL 100 IS A SPECIALLY FORMULATED PREMIUM BEARING AND HYDRAULIC OIL TO MEET THE SPECIFIC REQUIREMENTS IN STEEL PLANTS. IT IS BLENDED FROM PREMIUM QUALITY BASE STOCK AND SELECTED GRADES OF ANTI – OXIDANTS, ANTI – RUST, DEMULSIFIER, DEFAMANT , ANTI- RUST AND ANTI- WEAR/ EP ADDITIVES. THIS OIL IS SUITABLE FOR USES IN CONDITIONS WHERE VERY GOOD LOAD BEARING ABILITY ALONG WITH EXCELLENT DEMUSIBILISTY CHARACTERSTICS ARE CRITICAL REQUIREMENTS. THIS PRODUCT HAS GOOD WETTABILITY AND HIGH FILM STRENGTH PROVIDING EXTRA RUST PROTECTION AND ELIMINATING SCUFFING AND SCORING OF THE BEARING. IT HAS A GOOD WATER SEPARATING ABILITY, WHICH IS RETAINED AT A HIGH LEVEL DURING EXTENDED USE IN WATER QUENCHING CONDITIONS.

IT MEETS THE SPECIFICATIONS OF MORGAN CONSTRUCTION CO., USA, THE WORLD – WIDE MANUFACTURER OF NO- TWIST ROD MILLS.

THIS OILS HAS VERY GOOD EXTREME PRESSURE AND DEMULSIBILITY CHARACTERISTICS AND HENCE IT IS RECOMMENDED FOR USE IN ALL MORGOIL BEARINGS IN NO-TWIST ROD MILLS IN STEEL PLANTS. IT IS ALSO RECOMMENDED IN APPLICATIONS WHERE SEVERE LOAD CONDITIONS ARE ENCOUNTERED.

PROPERTIES	HP STEEL 100
VISCOSITY,AT 40°C ,CST	85-95
VISCOSITY,INDEX, MIN	95
FLASH POINT , °C, MIN	210
POUR POINT,°C MAX	(-) 9
FZG, FAILURE LOAD STAGE, MIN	12
EMULSION CHARACTERSTICS, @ 82 °C, 20 MINS, MAX	40-37-3

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# HP Lubricants - Product Data Sheet

## HYDRAULIC & CIRCULATING OILS



### ENKLO 32,46,57,N 68,100,121,150,176,220,320,460(ANTIWEAR TYPE)

ENKLO OILS DESIGNED FOR USE IN CIRCULATING SYSTEMS ARE MADE FROM HIGH VISCOSITY INDEX, CHEMICALLY STABLE BASE STOCKS WHICH ARE FURTHER FORTIFIED WITH ANTIOXIDANTS, ANTICORROSION, ANTIWEAR AND ANTIFOAM ADDITIVES,. THEY MEET THE REQUIREMENTS OF VERY HIGH PRESSURE SYSTEMS AND ALSO OF SYSTEMS WHERE HIGH PUMP SPEEDS ARE ENCOUNTERED.

ENKLO GRADES POSSESS THE FOLLOWING CHARACTERISTICS :

- RIGHT VISCOSITY TO SATISFY THE DEMANDS OF THE HYDRAULIC PUMP AND THE DESIGNED SYSTEM.
- HIGH VISCOSITY INDEX TO RESTRICT VISCOSITY CHANGES UNDER OPERATING CONDITIONS.
- GOOD FILM STRENGTH AND ANTIWEAR PROPERTIES TO MINIMISE WEAR OF PUMPS, VALVES, CYLINDERS, PISTONS ETC.
- MAXIMUM DEMULSIBILITY TO ALLOW ENTRAINED WATER TO SETTLE DOWN.
- EXCELLENT CORROSION RESISTANCE TO PREVENT RUSTING AND CORRSION OF METAL PARTS.
- RESISTANCE TO FOAMING TO ENSURE PROMPT AND EFFICIENT FUNCTIONING.
- HIGH CHEMICAL STABILITY TO ENSURE LONG AND TROUBLE FREE SERVICE LIFE.

ENKLO 32,46,68,100,150 MEETS THE REQUIREMENTS OF IS : 10522 – 1983 (REAFFIRMED 1993) SPECIFICATION AND USS 127. ENKLO GRADES PASS VICKERS

V-104 C VANE PUMP TEST AND MEET IPSS : 1-09-022.

ENKLO GRADES ARE RECOMMENDED FOR USE IN HYDRAULIC SYSTEMS, ENCLOSED GEAR BOXES, CHAIN DRIVES, COMPRESSORS, A VACUUM PUMPS, MINING MACHINERY, MACHINE TOOLS, HYDRAULIC AND CIRCULATION SYSTEM AND ENCLOSED GEAR BOXES WHICH DO NOT REQUIRE EP TYPE LUBRICANTS.

CONT...

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# HP Lubricants - Product Data Sheet

## HYDRAULIC & CIRCULATING OILS



PROPERTIES	ENKLO											
	32	46	57	68	N68	100	121	150	176	220	320	460
<b>VISCOSITY, CST @, 40°C</b>	29- 34	42- 50	52- 62	62- 68	62- 68	90- 100	118- 124	140- 160	170- 180	200- 240	310- 340	430- 500
<b>VISCOSITY, INDEX, MIN</b>	90	90	90	90	90	90	90	90	90	90	90	90
<b>FLASHPOINT, COC, °C, MIN</b>	190	190	210	210	210	210	220	230	230	230	250	260
<b>POURPOINT, °C MAX</b>	-3	-3	-3	0	0	0	0	0	0	0	0	0
<b>NEUTRALISATION NUMBER(MG KOH /GM, MAX</b>	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5

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# HP Lubricants - Product Data Sheet

## HYDRAULIC & CIRCULATING OILS



### ENKLO HLP 22,32,46,68(SPECIAL PURPOSE ANTI – WEAR TYPE)

PREMIUM HYDRAULIC OILS HAVING OUTSTANDING ANTIWEAR PROPERTIES, OXIDATION STABILITY AND A HIGH FZG RATING. IN ADDITION THESE GRADES HAVE EXCELLENT RESISTANCE TO THERMAL DEGRADATION AND BETTER HYDROLYTIC STABILITY. THESE GRADES ARE SPECIALLY DEVELOPED FOR SOPHISTICATED HYDRAULIC DEVICES WITH HYDRO- MECHANICAL ACTUATORS. ENKLO HLP GRADES FIND APPLICATION IN SYSTEM WHERE OIL IS USED FOR EXTENDED PERIODS.

ENKLO HLP GRADES MEET REQUIREMENT OF DIN 51524 PART2 SPECIFICATION DENISON HF-O AND HF-2 CINCINNATI MILACRON P-68, P-69, P70 AND IS : 11656 – 1986 SPECIFICATIONS AND US STEEL 127 ALSO PASSES VICKERS VANE PUMP TEST.

THEY ARE PREMIUM HYDRAULIC OILS HAVING OUTSTANDING ANTI-WEAR PROPERTIES, EXCELLENT OXIDATION STABILITY AND FZG RATINGS. THEY ARE RECOMMENDED FOR SOPHISTICATED ELECTRO HYDRAULIC OR NUMERICALLY CONTROLLED SYSTEM.

THESE GRADES ARE RECOMMENDED FOR USE IN SCREW COMPRESSORS, ALSO APPROVED BY INGERSOLL – RAND FOR USE IN THEIR SCREW COMPRESSORS, ENKLO HLP 32 IS APPROVED BY VOITH INDIA FOR USE IN HYDRAULIC COUPLING AND L & T MCNEIL LTD, CHENNAI FOR INJECTION MOULDING MACHINERY.

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# HP Lubricants - Product Data Sheet

## HYDRAULIC & CIRCULATING OILS



PROPERTIES	ENKLO HLP			
	22	32	46	68
VISCOSITY,CST@ 40°C	20-24	29-35	42-50	62-72
VISCOSITY,INDEX, MIN	90	90	90	90
FLASH POINT ,COC, °C,MIN	160	180	185	210
POUR POINT,°C MAX	(-) 18	(-) 18	(-) 15	(-) 12
COPPER STRIP CORRISION @ 100°C FOR 3 HRS, MAX	1	1	1	1
FZG RIG TEST , FAILURE LOAD STAGE, MIN	10	11	11	11

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# HP Lubricants - Product Data Sheet



## HYDRAULIC & CIRCULATING OILS

### ENKLO HLP T 32,46,68(SPECIAL PURPOSE ANTI- WEAR TYPE)

PREMIUM HYDRAULIC OILS HAVING OUTSTANDING LUBRICATION CHARACTERISTICS AND ANTIWEAR PROPERTIES, EXCELLENT THERMAL AND OXIDATION STABILITY AND VERY HIGH FZG RATING. THESE GRADES ARE FORMULATED WITH TURBINE OIL BASE STOCKS AND CAN USED IN HYDRAULIC SYSTEM REQUIRING VERY LONG LIFE LUBRICANT OF OUTSTANDING PERFORMANCE.

ENKLO HLP T GRADES MEET THE REQUIREMENTS ;OF DIN 51524 HLP PART 2 SPECIFICATION, DENISION HF-O & HF2, US STEEL 127 AND CINCINNATI MILACRON P-68, P-70. IT ALSO MEET IS : 10522 – 1983 AND IS 11656 – 1986 (REAFFIRMED 1993)

#### PROPERTIES

#### ENKLO HLP T

	32	46	68
<b>VISCOSITY,CST@ 40°C</b>	<b>29 - 35</b>	<b>42 - 50</b>	<b>62 - 72</b>
<b>VISCOSITY,INDEX, MIN</b>	<b>90</b>	<b>90</b>	<b>90</b>
<b>FLASH POINT ,COC, °C,MIN</b>	<b>180</b>	<b>185</b>	<b>210</b>
<b>POUR POINT,°C MAX</b>	<b>(-) 18</b>	<b>(-) 15</b>	<b>(-) 12</b>
<b>COPPER STRIP CORRISION @ 100°C FOR 3 HRS, MAX</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>FZG RIG TEST, FAILURE LOAD STAGE, MIN</b>	<b>11</b>	<b>11</b>	<b>11</b>

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# HP Lubricants - Product Data Sheet



## HYDRAULIC & CIRCULATING OILS

### ENKLO HL 32,46,68,100 (R & O TYPE)

THESE ARE GENERAL PURPOSE HYDRAULIC AND CIRCULATING OILS, BLENDED FROM SOLVENT REFINED MINERAL OILS AND FORTIFIED WITH SUITABLE ADDITIVES TO IMPART EXCELLENT OXIDATION AND RUST INHIBITION PROPERTIES. GOOD ANTI-RUST PROPERTIES PROVIDE THE BENEFIT OF LONGER EQUIPMENT LIFE, LOW MAINTENANCE COST AND REDUCED DOWN TIME. GOOD THERMAL AND OXIDATION STABILITY HELPS IN LOWER DEPOSITS, THUS INHIBITING OIL THICKENING AND CONSEQUENT POWER SAVING.

ENKLO HL GRADES MEET THE REQUIREMENT OF IS: 3098-1983 (REAFFIRMED 1993) AND DIN 51524 PART 1 SPECIFICATION (EXCEPT FOR LOW POUR POINT REQUIREMENT) . IT ALSO MEETS US STEEL NO.135 & CINCINNATI MILACRON P-38, P-55,P-54 & P-57.

THESE OILS FIND APPLICATIONS IN THE SYSTEMS WHERE HYDRAULIC FLUIDS OF MODERATE ANTI-WEAR PROPERTY ARE REQUIRED HAVING MILD EXTREME PRESSURE CHARACTERISTICS.

PROPERTIES	ENKLO HL				
	32	46	68	100	150
<b>VISCOSITY, CST@40°C</b>	29-34	42-48	64-72	90-100	140-160
<b>VISCOSITY INDEX, MIN</b>	90	90	90	90	90
<b>FLASH POINT,(COC),°C, MIN</b>	190	190	210	210	230
<b>POUR POINT, °C, MAX</b>	(-) 3	(-) 3	0	0	0
<b>COPPER STRIP CORROSION @100°C, FOR 3 HOURS, MAX</b>	1	1	1	1	1

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# HP Lubricants - Product Data Sheet

## HYDRAULIC & CIRCULATING OILS



### ENKLO FRIE 68, 100,150

ENKLO FRIE IS SPECIALLY FORMULATED HYDRAULIC OIL MEANT FOR APPLICATION IN AREAS PRONE TO POTENTIAL IGNITION SOURCES MAINLY IN MINES AND STEEL PLANTS. IT IS A HOMOGENOUS WATER-IN-OIL TYPE OF EMULSION, ALSO KNOWN AS INVERT EMULSION. THIS OIL IS CONSTITUTED OF MINERAL OIL ALONG WITH SPECIAL EMULSIFIERS, STABILISERS, RUST INHIBITORS AND OTHER PREMIUM QUALITY ADDITIVES.

THIS OIL MEETS IS : 10532 (PART – 2) – 1993 AND HF – B CLASSIFICATION OF EUROPEAN MINES SAFETY COMMISSION.

THE OPERATING TEMPERATURE OF THE OIL RANGES FROM 5°C TO + 60°C . THIS OIL IS USED IN THE HYDRAULIC ROOF SUPPORT SYSTEMS IN MINES. IT IS USED IN SIDE DISCHARGE LOADERS, HYDROSTATIC SYSTEMS, SCOOP TRAMS AND SHUTTLE CARS IN MINING AND STEEL INDUSTRIES. THIS OIL IS SUITABLE FOR USE IN DINTING MACHINES, HEADING MACHINES, LOADERS AND CREEPERS. IT IS ALSO USED IN THE INJECTION MOULDING MACHINES IN PLASTICS AND DIE - CASTING INDUSTRIES.

### ENKLO FRWG 22,46,68

ENKLO FRWG IS A HYDRAULIC OIL FORMULATED FROM GLYCOLS FOR MEETING THE FIRE RESISTANT REQUIREMENT IN FIRE PRONE AREAS IN STEEL, MINING, DIE- CASTING AND PLASTICS INDUSTRIES. IT IS A TRUE SOLUTION OF GLYCOLS AND WATER. THIS GRADE IS COMPOSED OF PLOYAKLYLENE GLYCOLS, SELECTED FOR WEAR REDUCTION,CORROSION INHIBITORS, ANTI-OXIDANTS, ANTI-FOAMANTS AND WATER.

THIS OIL MEETS IS : 10532 (PART– 3 ) – 1993 AND HF– C CLASSIFICATION OF EUROPEAN MINES SAFETY COMMISSION.

CONT...

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# HP Lubricants - Product Data Sheet

## HYDRAULIC & CIRCULATING OILS



THE OPERATING TEMPERATURE OF THE OIL RANGES FROM – 20°C TO + 60°C. THIS OIL IS SUITABLE FOR USE IN THE HYDRAULIC SYSTEMS OF COKE OVEN BATTERY CARRIER, CRANE HYDRAULICS IN HIGH TEMPERATURE REGIONS OF STEEL PLANTS. IT IS USED IN CONTROL GOVERNORS IN STEAM TURBINES, IN POWER PLANTS. IT IS ALSO SUITABLE FOR USE IN HYDROSTATIC TRANSMISSIONS.

PROPERTIES	ENKLO FRIE			ENKLO FRWG		
	68	100	150	22	46	68
<b>VISCOSITY, CST@40°C</b>	61.2-74.8	90.2-110	135-165	19.8-24.2	41.5-50.6	61.2-74.8
<b>FOAMING CHARACTERISTI C, SEQ I</b>	← 150/NIL →			← 150/NIL →		
<b>RUST TEST</b>	← PASSES →			← PASSES →		

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# HP Lubricants - Product Data Sheet



## COMPRESSOR OILS

### HYCOM C 100,150,220,320

HYCOMC GRADES ARE FORMULATED WITH SELECTED BASE STOCKS AND A SPECIAL COMPOUNDING AGENT TO GIVE EXCELLENT RESISTANCE TO WASHING EFFECT OF WATER. THESE ARE FURTHER FORTIFIED WITH ANTI-RUST AND ANTI-CORROSION AGENT AND HAVE GOOD FLUIDITY AT LOW TEMPERATURE.

HYCOM C GRADES MEET DIN 51506

HYCOM C GRADES ARE RECOMMENDED FOR CYLINDER LUBRICATION OF SINGLE AND MULTISTAGE AIR COMPRESSORS WITH MOIST AIR AND PROVIDE EXCELLENT LUBRICATION OF PISTON RINGS, VALVES, CYLINDER LINERS ETC.

PROPERTIES	HYCOM C			
	100	150	220	320
<b>KINEMATIC VISCOSITY, CST. @ 40°C</b>	<b>95-105</b>	<b>140-160</b>	<b>210-230</b>	<b>310-330</b>
<b>FLASH POINT,(COC),°C, MIN</b>	<b>190</b>	<b>210</b>	<b>240</b>	<b>248</b>
<b>SAPONIFICATION NUMBER, KOH/G</b>	<b>2.5-5.0</b>	<b>25.-5.0</b>	<b>2.5-5.0</b>	<b>7-10</b>
<b>POUR POINT, °C, MAX</b>	<b>(-) 6</b>	<b>0</b>	<b>3</b>	<b>6</b>

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# HP Lubricants - Product Data Sheet



## COMPRESSOR OILS

**HYCOM 32,46,68,100,150**

THESE OILS ARE DEVELOPED TO MEET SATISFACTORY LUBRICATION UNDER MODERATE OXIDATION AND THERMAL PERFORMANCE. HYCOM GRADES ARE BLENDED FROM NEUTRAL BASE STOCKS WITH SUITABLY SELECTED HIGH PERFORMANCE ANTI-OXIDANT, ANTI-RUST FOAM ADDITIVES.

IT ALSO PASSES THE PNEUROP OXIDATION TEST WITHOUT CATALYST & DIN 51352 PART I. IT EXCEEDS THE REQUIREMENTS OF DIN 51506VC-L SPECIFICATIONS.

THIS IS SUITABLE FOR MODERATE PERFORMANCE RECIPROCATING ROTARY AIR/SCREW COMPRESSORS UP TO A DISCHARGE AIR TEMPERATURE OF 220°C. THESE OILS ARE SUITABLE FOR USE IN AIR VACUUM PUMP DESIGNED TO DELIVER AT A PRESSURE GREATER THAN ATMOSPHERE PRESSURE. IT IS SUITABLE FOR LUBRICATION OF AIR COMPRESSORS WITH LUBRICATED COMPRESSION CHAMBERS NOT PROVIDED WITH COOLING BY INJECTION.

PROPERTIES	HYCOM C						
	32	46	68	100	150	220	320
<b>VISCOSITY,CST. @ 40°C</b>	29-35	42-50	62-74	90-110	135-165	200-240	290-350
<b>VISCOSITY,INDEX MIN</b>	95	95	95	95	95	95	95
<b>FLASH POINT, (COC), °C, MIN</b>	175	195	195	205	210	220	220
<b>POUR POINT, °C, MAX</b>	(-) 9	(-) 9	(-) 9	(-) 9	(-) 3	(-) 3	(-) 3
<b>FZG,FAILURE LOAD STAGE, MIN</b>	9	9	9	9	9	9	9

CONT...

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# HP Lubricants - Product Data Sheet



## COMPRESSOR OILS

### HYCOM NH 32,46,57

IT IS BLENDED OUT OF HIGHLY REFINED TURBINE BASE STOCKS AND SPECIAL TYPES OF ANTI-OXIDANTS, ANTI-RUST, ANTI-FOAM AND DEMULSIFIER WHICH DO NOT REACT TO ANY OF THE TYPES OF GASES. THIS OIL HAS GOOD DEMULSIBILITY PROPERTY, LOW DEPOSITS AND SLUDGE FOAMING TENDENCY AT A WIDE RANGE OF WORKING TEMPERATURE AND IN ANY GASEOUS ATMOSPHERE.

IT MEETS DIN 51506 VDL SPECIFICATIONS.

HYCOM NH GRADES ARE SPECIALLY DEVELOPED OIL FOR EXCELLENT LUBRICATION OF AMMONIA AND SYNTHETIC GAS COMPRESSORS. IT IS SUITABLE FOR USE IN BOTH SCREW AND CENTRIFUGAL TYPE COMPRESSORS AND IS COMPATIBLE WITH ANY OTHER OIL WITH CONVENTIONAL ADDITIVE SYSTEM.

PROPERTIES	HYCOM C		
	32	46	57
<b>VISCOSITY,CST.@ 40°C</b>	<b>29-35</b>	<b>42-50</b>	<b>55-60</b>
<b>VISCOSITY,INDEX MIN</b>	<b>100</b>	<b>98</b>	<b>95</b>
<b>FLASH POINT, (COC), °C, MIN</b>	<b>200</b>	<b>200</b>	<b>204</b>
<b>POUR POINT, °C, MAX</b>	<b>(-) 18</b>	<b>(-) 15</b>	<b>(-) 12</b>
<b>FZG,FLS, MIN</b>	<b>10</b>	<b>10</b>	<b>10</b>

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# HP Lubricants - Product Data Sheet



## COMPRESSOR OILS

### HYCOM VDLT 32,46,68,100,150,220320

IT IS SPECIALLY BLENDED FROM SATURATED PARAFFINIC TURBINE BASE STOCKS AND SELECTED PREMIUM GRADE OF ANTI-OXIDANTS, ANTI-RUST, ANTI-FOAM AND ANTI-WEAR ADDITIVES.

IT PASSES THROUGH THE STRINGENT PNEUROP OXIDATION PERFORMANCE TEST WITH CATALYST AND DIN 51352 PART II. IT MEETS THE REQUIREMENTS OF DIN 51506 VDL-L AND ISO DIS 6521 SPECIFICATIONS. IT ALSO EXCEED SPERRY VICKERS I-286-S, AFNOR NFE 48603 (HM) AND CINCINNATI MILACRON P-68, P-69, P-70 SPECIFICATION

IT IS MOST SUITABLE TO BE USED IN HIGH PERFORMANCE RECIPROCATING ROTARY AIR COMPRESSORS/SCREW COMPRESSORS. THIS CAN BE USED UP TO 250 °C AIR DISCHARGES TEMPERATURE. IT IS SUITABLE FOR SIR VACUUM PUMP DESIGNED TO DELIVER AT A PRESSURE HIGHER THAN ATMOSPHERIC PRESSURE. IT IS SUITABLE FOR LUBRICATION OF AIR COMPRESSORS WITH LUBRICATED COMPRESSION CHAMBER, NOT PROVIDED WITH COOLING BY INJECTION.

PROPERTIES	HYCOMVDLT						
	32	46	68	100	150	220	320
<b>VISCOSITY,CST. @ 40°C</b>	29-35	42-50	62-74	90-110	135-165	200-240	290-350
<b>VISCOSITY,INDEX MIN</b>	95	95	95	95	95	95	95
<b>FLASH POINT, (COC), °C, MIN</b>	175	195	195	205	210	220	220
<b>POUR POINT, °C, MAX</b>	(-) 9	(-) 9	(-) 9	(-) 9	(-) 3	(-) 3	(-) 3
<b>FZG,FAILURE LOAD STAGE, MIN</b>	9	9	9	9	9	9	9

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# HP Lubricants - Product Data Sheet



## MACHINE TOOL WAYOILS

### WAYLUBE 68,N68,220

WAYLUBE GRADES HAVE BEEN FORMULATED TO IMPART SPECIAL FRICTIONAL CHARACTERISTICS THAT OVERCOME THE STICK-SLIP MOTION, ORDINARILY ASSOCIATED WITH SLOW MOVING MACHINE PARTS. THEY ARE ALSO FORTIFIED WITH MILD EP AND RUST PREVENTIVE PROPERTIES.

WAYLUBE N68 IS A COMBINED HYDRAULIC AND MACHINE TOOL WAY LUBRICANT POSSESSING ADEQUATE LUBRICITY TO ELIMINATE STICK-SLIP AND CHATTER UNDER MODERATE LOAD CONDITION AND AT THE SAME TIME SERVES AS HYDRAULIC MEDIA IN NON-CRITICAL SYSTEMS.

WAYLUBE 68,220 ARE RECOMMENDED FOR SLIDE WAY LUBRICATION OF PLANERS, GRINDERS, HORIZONTAL BORING MACHINES, SHAPERS, JIG BORERS ETC, INVOLVING HIGH PRECISION WORK AND ARE ALSO RECOMMENDED FOR LUBRICATION OF GEARS BY OILS CAN. WAYLUBE N 68 IS RECOMMENDED FOR MACHINE TOOLS COMBINED HYDRAULIC AND WAY LUBRICATION SYSTEMS.

PROPERTIES	WAYLUBE		
	68	220	N68
VISCOSITY,CST.@ 40°C	62-68	200-220	62-68
VISCOSITY,INDEX MIN	90	90	90
FLASH POINT, (COC), °C, MIN	170	198	190
POUR POINT, °C, MAX	(-) 3	(-) 3	0

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# HP Lubricants - Product Data Sheet

## INDUSTRIAL GEARBOX OILS



**PARTHAN EP 68,100,150,220,257,320,460,680,1000**

**THESE ARE PREMIUM QUALITY OILS MANUFACTURED FROM HIGH QUALITY BASE STOCKS FORTIFIED WITH EXTREME PRESSURE ADDITIVES, ANTIFOAM, ANTIRUST, AND ANTIOXIDATION AGENTS; THEREBY THEY HAVE EXCELLENT OXIDATION RESISTANCE AND THERMAL STABILITY. PARTHAN EP GRADES CONTAIN PHOSPHOROUS AND SULFUR AS EXTREME PRESSURE AGENTS. THESE ARE NON – CORROSIVE TO COPPER AND COPPER ALLOYS.**

**PARTHAN EP GRADES MEET IS : 8406 – 1993, USS 224, AGMA STANDARD 250.04,DIN 51 517 PART 3, IPPSS 1-09-003-82 AND CININNATI MILACRON P-63,P-77,P-35 PARTHAN EP GRADES ARE APPROVED BY ABB – ABL PROJECTS FOR THEIR VARIOUS EQUIPMENTS, RECOMMENDED BY MAJOR GEAR BOX MANUFACTURES LIKE FMG, SHANTI GEAR BOX,ETC**

**THESE OILS ARE RECOMMENDED FOR ALL HEAVY DUTY ENCLOSED GEAR DRIVES WITH CIRCULATION OR SPLASH LUBRICATION SYSTEM OPERATING UNDER HEAVY OR SHOCK LOAD CONDITIONS, PAIR AND ANTIFRICTION BEARING SUBJECTED TO SHOCK AND HEAVY LOADS, PARTHAN EP GRADES GIVE DEPENDABLE PERFORMANCE FOR CONTINUOUS SERVICE AT OPERATING TEMPERATURE UP 110°C. PARTHAN EP OILS ARE ALSO SUITABLE FOR SPRAY LUBRICATION SYSTEMS REQUIRING EXTREME PRESSURE PROPERTIES.**

**CONT...**

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# HP Lubricants - Product Data Sheet

## INDUSTRIAL GEARBOX OILS



PROPERTIES	PARTHAN EP								
	68	100	150	220	257	320	460	680	1000
VISCOSITY,CST.@40° C	62-72	95- 110	135- 160	210- 240	250- 270	300- 340	440- 475	625- 700	950- 1100
VISCOSITY,INDEX MIN	90	90	90	90	90	90	90	90	90
FLASH POINT, (COC), °C, MIN	210	210	220	220	220	220	230	230	230
POUR POINT, °C, MAX	(-) 6	(-) 6	(-) 6	(-) 6	(-) 6	(-) 6	(-) 3	(-) 3	0
TIMKEN OK LOAD, KG, MIN	60	60	60	60	60	60	60	60	60
FZG, RIG TEST, PASSES	12	12	12	12	12	12	12	12	12

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# HP Lubricants - Product Data Sheet



## SPINDLE OILS

### SPINTEK 5,12,15,22

SPINTEK OILS ARE LOW VISCOSITY LUBRICANTS MANUFACTURED FROM HIGHLY REFINED BASE STOCKS POSSESSING EXCELLENT CHEMICAL AND OXIDATION STABILITY AND FURTHER FORTIFIED WITH CAREFULLY SELECTED OXIDATION AND RUST INHIBITORS, ANTIWEAR AND ANTIFOAM AGENTS.

SPINTEK OILS HAVE FOLLOWING OUTSTANDING CHARACTERISTICS.

- GOOD STRENGTH OF OIL FILM
- GOOD DEMULSIBILITY
- HIGH CHEMICAL STABILITY
- LOWEST FLUID FRICTION
- RESISTANCE TO RUSTING AND CORROSION

THESE OILS ARE RECOMMENDED FOR LUBRICATION OF TEXTILE AND MACHINE TOOLS, SPINDLE BEARINGS, TIMING GEARS, CENTRIFUGAL SEPARATORS, POSITIVE DISPLACEMENT BLOWERS AND HYDRAULIC SYSTEM OF CERTAIN HIGH PRECISION MACHINE TOOLS.

SPINTEK GRADE ARE APPROVED BY MAJOR TEXTILE MACHINERY MANUFACTURES LIKE LMW, TEXTTOOL, TEXMACO ETC.

PROPERTIES	PARTHAN EP			
	5	12	15	22
<b>VISCOSITY,CST.@40°C</b>	9.5-13.4	9.0-11.0	14-16	20-24
<b>VISCOSITY,INDEX MIN</b>	85	85	85	85
<b>FLASH POINT, COC), °C, MIN</b>	168	168	176	182
<b>POUR POINT, °C, MAX</b>	(-) 6	(-) 6	(-) 3	(-) 3

IT MEETS IS : 493 (PART I)- 1993

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# HP Lubricants - Product Data Sheet

## GENERAL PURPOSE MACHINERY OILS



YANTROL 32,68,100,150,220,320,  
YANTROL N 32,68,100,150,220,320,460

YANTROL GRADES ARE SPECIALLY FORMULATED WITH ADDITIVES TO IMPROVE ADHESIVENESS AND FILM STRENGTH CHARACTERISTICS. THEY PROVED PERSISTENCE OF OIL FILM TO AN UNUSUAL DEGREE AND HAVE MARKED INFLUENCE IN REDUCING POWER CONSUMPTION, WEAR AND MAINTENANCE COSTS.

YANTROL GRADES ARE GENERAL-PURPOSE LUBRICANTS FOR 'ONCE-THROUGH' APPLICATION SITUATION IN TEXTILE MILLS, PAPER MILLS AND MACHINE TOOLS.

YANTROL N GRADES ARE SPECIALLY DEVELOPED FOR GENERAL-PURPOSE LUBRICATION, TO BE USED AT STEEL MILLS, TEXTILE MILLS, MACHINE TOOLS, ETC.

PROPERTIES	YANTROL/YANTROL N						
	32	68	100	150	220	320	460
VISCOSITY,CST.@40°C	29-34	62-68	90-100	140-160	200-240	300-340	414-506
VISCOSITY,INDEX MIN	90	90	90	90	90	90	90
FLASH POINT, (COC), °C, MIN	190	190	190	190	190	240	240
POUR POINT, °C, MAX	0	0	0	0	0	0	0

IT MEETS IS : 493 (PART I) – 1993

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# HP Lubricants - Product Data Sheet



## TEXTILE OILS

YANTROL TS 32,68,100,220

YANTROL C 32

YANTROL TS GRADES ARE SPECIALLY DESIGNED FOR LUBRICATION OF TEXTILE MACHINERY, HAVE IN ADDITION EXCELLENT SCOUR ABILITY AND SUPERIOR TACKINESS CHARACTERISTICS. THESE THEREFORE, REDUCE THE POSSIBILITY OF STAINING THE CLOTH IN DIFFERENT STAGES OF CLOTH MANUFACTURING IN TEXTILE MILLS. THESE OILS MINIMIZE WEAR, PROVIDE PROTECTION AGAINST RUST AND CORROSION.

YANTROL TS GRADES ARE RECOMMENDED FOR LUBRICATION LOOMS AND OTHER TEXTILE MACHINERY WHERE A SCOUR ABLE TYPE OF OILS IS PREFERRED. YANTROL C 32 IS A SPECIAL GRADE FORMULATED FOR SPECIFIC APPLICATION IN TEXTILE INDUSTRY. SUCH AS WICK-FED TWISTER RINGS, CIRCULAR KNITTING MACHINE, SEWING MACHINES, LEATHER APRONS AND TAPES ETC.

PROPERTIES	YANTROL TS			YANTROL C	
	32	68	100	220	32
<b>VISCOSITY,CST.@40°C</b>	29-34	62-68	90-110	200-230	30-35
<b>VISCOSITY,INDEX MIN</b>	90	90	90	90	90
<b>FLASH POINT, COC), °C, MIN</b>	68	188	192	210	204
<b>POUR POINT, °C, MAX</b>	0	0	0	0	0

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# HP Lubricants - Product Data Sheet

## STEAM CYLINDER OILS



CYNDOL 680,1000,1500,TC 460,TC530,TC680

**CYNDOL GRADES ARE FORMULATED FROM SPECIALLY TREATED HIGH VISCOSITY INDEX, HEAVY, VISCOSITY BASE STOCKS HAVING ENHANCED LUBRICATING PROPERTIES AND THERMAL STABILITY. THEY HAVE EXCELLENT OILINESS AND FILM STRENGTH CHARACTERISTICS, MAXIMUM RESISTANCE TO WASHING EFFECT OF MOISTURE AND EXCELLENT LOAD CARRYING ABILITY. CYNDOL TC GRADES ARE COMPOUNDED WITH SPECIAL FATTY OILS AND CONTAIN AN ADHESIVE AGENT.**

**CYNDOL TC GRADES MEET IPSS : 1-09-010**

**CYNDOL TC GRADES ARE RECOMMENDED FOR STEAM ENGINES OPERATING UNDER WET SATURATED STEAM CONDITIONS. THESE ARE WIDELY USED IN CALENDER BEARING AND SUGAR MILL ROLLER BEARING AND ARE ALSO RECOMMENDED FOR LUBRICATION OF WORM GEARS.**

**CYNDOL TC GRADES ARE EMINENTLY SUITABLE FOR CYLINDER LUBRICATION OF STEAM ENGINES USING HIGHLY SUPER HEATED STEAM. THESE ARE ALSO USED IN OIL TEMPERING AND WIRE DRAWING APPLICATION WITH SATISFACTORY RESULTS.**

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# HP Lubricants - Product Data Sheet



## STEAM CYLINDER OILS

PROPERTIES	CYNDOL					
	TC 460	TC530	TC680	680	1000	1500
<b>VISCOSITY,CST. @40°C</b>	<b>420-470</b>	<b>510-550</b>	<b>625-700</b>	<b>625-700</b>	<b>950-1100</b>	<b>1400-1600</b>
<b>VISCOSITY, INDEX MIN</b>	<b>90</b>	<b>90</b>	<b>85</b>	<b>85</b>	<b>80</b>	<b>80</b>
<b>FLASH POINT, (COC), °C, MIN</b>	<b>240</b>	<b>240</b>	<b>260</b>	<b>254</b>	<b>292</b>	<b>306</b>
<b>POUR POINT, °C, MAX</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>12</b>	<b>9</b>	<b>3</b>
<b>SAPONIFICATION NO., MG KOH/GM OF OIL</b>	<b>10-12</b>	<b>10-12</b>	<b>10-12</b>	<b>-</b>	<b>-</b>	<b>-</b>

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# HP Lubricants - Product Data Sheet



## REFRIGERATION COMPRESSOR OILS

SEETUL 15,22,32,46,68,100,N32,N68

SEETUL GRADES ARE FORMULATED FROM SPECIALLY SELECTED LUBE BASE STOCKS TO PROVIDE LOW POUR POINT, LOW FLOC POINT, DRYNESS, GOOD CHIMECAL STABILITY AND READY SOLUBILITY IN LIQUEFIED REFRIGERANTS, SEETUL N GRADES HAVE ADDITIONAL CHARACTERISTICS OF LOW FREON FLOC POINT, (-) 40°C . THEY POSSESS HIGH FLUIDITY AT VERY LOW TEMPERATURES, RESIST DEPOSIT FORMATION AND HAVE REDUCED TENDENCY TO FOAM.

SEETUL GRADES MEET IS : 4578-1989 SPECIFICATION

SEETUL GRADES ARE RECOMMENDED FOR WIDE RANGE OF REFRIGERATION COMPRESSORS, BOTH RECIPROCATING AS WELL AS ROTARY, USING ALL CONVENTIONAL REFRIGERANTS EXCEPT SULFUR- DIOXIDE. SEETUL N GRADES ARE RECOMMENDED FOR THE LUBRICATION OF HERMETICALLY SEALED REFRIGERATION COMPRESSORS.

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# HP Lubricants - Product Data Sheet

## REFRIGERATION COMPRESSOR OILS



PROPERTIES	CYNDOL							
	15	22	32	46	68	100	N32	N68
VISCOSITY,CST.@40°C	13.5-16.5	20-24	30-34	42-46	62-68	90-100	29-32	62-68
VISCOSITY,INDEX MIN	50	50	50	55	55	60	50	55
FLASH POINT, (COC), °C, MIN	145	150	160	160	170	200	160	170
POUR POINT, °C, MAX	(-) 39	(-)36	(-)30	(-)26	(-)26	(-)2 6	(-)36	(-) 30
TAN, MG KOH/G OF OIL, MAX KG, MIN	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05

**THEY HAVE LONG SERVICE LIFE DUE TO GOOD OXIDATION AND THERMAL STABILITY AND ENSURE HIGH CONDENSER EFFICIENCY AND REDUCED COMPRESSOR VALUE MAINTENANCE DUE TO LESS DEPOSITS.**

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# HP Lubricants - Product Data Sheet

## PNEUMATIC TOOL OILS



### NU-MATIC 100,220

NU-MATIC OILS ARE SPECIALLY FORMULATED WITH EXTREME PRESSURE, TACKINESS, ANTI-RUST AGENTS TO GIVE LOAD BEARING CHARACTERISTICS, GOOD ADHESIVE CHARACTERISTICS, GOOD DEMULSIBILITY PROPERTY AND EFFECTIVE PROTECTION TO METAL SURFACES AGAINST ACIDIC CORROSION. THESE GRADES HAVE EXCELLENT FLOW CHARACTERISTICS TO ENSURE PROPER FEED AND DISPERSION THROUGH THE OILERS.

THESE OILS ARE RECOMMENDED FOR LUBRICATION OF PNEUMATIC EQUIPMENTS SUCH AS ROCK DRILLS, JACK HAMMERS, CHIPPERS, WAGON DRILLS ETC AND USED IN SMALL IN – PLANT PNEUMATIC TOOLS LIKE, GRINDERS, FILING TOOLS, DRILLS TAPPERS, IMPACT WRENCHES, RIVETERS, HOISTS ETC.

PROPERTIES	NU-MATIC	
	100	220
VISCOSITY,CST.@40°C	95-110	200-230
FLASH POINT, (COC), °C, MIN	192	216
POUR POINT, °C, MAX	6	6
SAPONIFICATIN NO., .MG KOH/G OF OIL	5.2-6	5.2-6

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# HP Lubricants - Product Data Sheet

## SUGAR MILL ROLL BEARING OILS



### CRUSH WELL 2,3,4

THESE ARE SUGAR MILLS LUBRICANTS MANUFACTURED FROM HIGH VISCOSITY LUBRICATING OIL BASE STOCKS AND CONTAIN SELECTED NON-TOXIC MILD EP AND SPECIAL COMPOUNDING AGENTS TO ENSURE LUBRICATION EVEN IN PRESENCE OF JUICE. THESE OILS PREVENT WEAR AND CORROSION OF BEARINGS AND HAVE EXCELLENT RESISTANCE TO LEAKAGE.

THESE ARE IDEAL LUBRICANTS MEETING REQUIREMENTS OF HEAVILY LOADED MILL ROLL BEARINGS IN SUGAR MILLS. THESES CARRY APPROVALS OF SUGAR MILL MACHINERY MANUFACTURERS. THESE OILS ARE ALSO RECOMMENDED IN CENTRALIZED LUBRICATION SYSTEM OF SLOW SPEED SPUR AND HELICAL GEARS IN CERTAIN INDUSTRIES AND FOR OPEN GEAR LUBRICATION BY SLUSH PAN METHOD.

PROPERTIES	CRUSHWELL		
	2	3	4
VISCOSITY,CST.@40°C	40-45	60-65	89-94
FLASH POINT, (COC), °C, MIN	204	204	204

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# HP Lubricants - Product Data Sheet

## OPEN GEAR OILS



### HYTAK 0,1,5,F3,F4,F5

THESE ARE HEAVY VISCOUS BLACK PETROLEUM PRODUCTS FORTIFIED WITH SPECIAL TACKINESS AGENTS. THEY ALL HAVE PRONOUNCED STRINGINESS AND EXCELLENT FILM STRENGTH TO WITHSTAND HIGH PRESSURE ENCOUNTERED IN HEAVILY LOADED OPEN GEAR.

THEY ALSO POSSESS GOOD RUST PREVENTIVE PROPERTIES AND HAVE ABILITY TO STAY IN PLACE AND PROVIDE LONG LASTING PROTECTION TO ROPES AND OPEN GEARS.

HYTAK 1,2,5,MEET IS:6554-1980 GRADES 2,3,&4 SPECIFICATIONS RESPECTIVELY.

THESE GRADES ARE RECOMMENDED FOR LUBRICATION OF CONVENTIONAL OPEN GEARS, CABLE AND WIRE ROPES, THE HEAVIER GRADES REQUIRE HEATING BEFORE APPLICATION AND IN LIQUID STATE THEY CAN BE APPLIED WITH SWAB, BRUSH, PADDLE OR SPRAY. HYTAK F GRADES CONTAIN A NON- FLAMMABLE SOLVENT FOR EASY APPLICATION WITHOUT HEATING.

PROPERTIES	HYTAK						
	0	1	2	5	F3	F4	F5
<b>VISCOSITY,CST.@40°C</b>	62.1-67.5	200-300	450-650	950-1200	1400-1600 @40C	1166-1590 @50C	2332-3180 @50C
<b>FLASH POINT, (COC), °C, MIN</b>	240	230	230	230	260	-	-

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# HP Lubricants - Product Data Sheet

## DEFENCE GRADES



### HP OIL 33,OM,100

**PREMIUM QUALITY LUBRICATING OILS, EXCLUSIVELY USED FOR DEFENCE REQUIREMENTS, ARE MADE FROM BEST MINERAL OIL BASE STOCKS, FURTHER ENHANCED WITH ANTI OXIDATION, RUST INHIBITORS, ANTIFOAM AGENTS.**

**HP OIL OM 100 33 MEETS JSS : 9150-26. IT IS GENERALLY USED AS A HYDRAULIC FLUID ON MACHINE TOOLS, FORK-LIFT TRUCKS AND HANDLING GEAR SYSTEMS OF HM SHIPS AND CERTAIN FIGHTING VEHICLES. LUBRICATION OF CERTAIN GUNNERY QUIPMENT, RADAR EQUIPMENT AND AIR COMPRESSOR OPERATING IN ALL AMBIENT TEMPERATURES NOT LOWER THAN MINUS 40°C.**

**HP OIL OM 100 MEETS DEFENCE STANDARD SPECIFICATION AND ALSO IS: 1012-1987. HP OIL OM 100 GRADE IS USED IN MAIN AND AUXILIARY STEAM TURBINES AND THEIR ASSOCIATED GEARING. IT IS ALSO APPLIED IN AUXILIARY RECIPROCATING ENGINES WITH FORCED LUBRICATION OF NAVAL AIRCRAFT GUNS AND SELF FEED MECHANISMS. THIS IS ALSO USED FOR MISCELLANEOUS PURPOSES AND CERTAIN HYDRAULIC SYSTEMS IN HM SHIPS.**

**CONT...**

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# HP Lubricants - Product Data Sheet

## DEFENCE GRADES



PROPERTIES	HP OIL OM	
	100	33
VISCOSITY,CST.@40°C	90 – 100	26 – 33
VISCOSITY,INDEX MIN	95	-
FLASH POINT, (COC), °C, MIN	210	160(PMCC)
POUR POINT, °C, MAX	(-) 6	(-) 30
COPPER STRIP CORROSION AT 100C FOR 3HRS., MAX	1	1
TAN, MG KOH/G OF OIL, MAX KG, MIN	0.20	0.3

### HP PROTECTIVE PX – 10

HP PROTECTIVE PX 10 IS A PROTECTIVE AND SURFACE-ACTIVE MATERIAL DISSOLVED IN A VOLATILE SOLVENT. THIS IS USEFUL FOR PRELIMINARY TREATMENT OF SALVAGED MECHANISMS AND OF ARTICLES DEGREASED BY ALKALI AND WATER WASHES. THIS IS ALSO USED FOR PROTECTION OF WATER SPACES OF IC ENGINES, CYLINDERS AND VALVE CHESTS OF STEAM ENGINES AND IMPELLERS OF TURBINE ENGINES.

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# HP Lubricants - Product Data Sheet



## DEFENCE GRADES

### HP OIL C 70, C 600

HP OIL C 70 MEETS JSS : 9150-9 SPECIFICATION. IT IS INTENDED FOR LUBRICATION FOR ARTILLERY EQUIPMENT AND BREACH MECHANISM.

HP OIL C 600 MEETS IS : 2297-1987 (GRADE 140) SPECIFICATION. HP OM C 600 GRADE IS USED FOR LUBRICATION OF CERTAIN GEAR-BOXES STEERING BOXES AND WORM GEAR AXLES (BUT NOT FOR PRE-SELECTOR BOXES ON HYPOID GEARS) ALSO FOR CERTAIN USES ON TORPEDOES.

	C70	C600
<b>KINEMATIC VISCOSITY @40°C, CST</b>	<b>30 - 35</b>	
<b>KINEMATIC VISCOSITY, @100°C, CST</b>		<b>25 - 43</b>
<b>VISCOSITY INDEX, MIN</b>	<b>-</b>	<b>85</b>
<b>FLASH POINT, (COC), °C, MIN</b>	<b>150(PMCC)</b>	<b>230(COC)</b>
<b>POUR POINT, °C, MAX</b>	<b>-</b>	<b>(-) 3</b>
<b>COPPER STRIP CORROSION AT 100C FOR 3HRS., MAX</b>	<b>-</b>	<b>1</b>
<b>SAPONIFICATION VALUE MG KOK/GM OIL</b>	<b>50 - 60</b>	<b>10 - 18</b>

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# HP Lubricants - Product Data Sheet

## DEFENCE GRADES



### HP OIL OX 52

IT MEETS JSS : 9150 – 11 SPECIFICATION. IT IS USED AS A LUBRICANT, PRESERVATIVE CUM CLEANING AGENT FOR SMALL ARMS AND MACHINE GUNS AT MEDIUM AND HIGH TEMPERATURES. IT IS NOT RECOMMENDED WHERE OILS IS IN PROLONGED CONTACT WITH BRASS COMPONENTS.

PROPERTIES	HP OIL OX 52
KINEMATIC VISCOSITY @37.8°C, CST	40 – 50
NEUTRALITY (PH VALUE)	8 – 9
FLASH POINT, PMCC, °C,MIN	163
POUR POINT, °C , MAX	0
OLEIC ACID, % WT	13.5 – 14.1

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# HP Lubricants - Product Data Sheet



## GENERAL RECOMMENDATIONS FOR ENCLOSED SPUR, BEVEL AND HELICAL GEARS (FOR SPEED REDUCTION UPTO 10:1)

### LUBRICANT RECOMMENDED

PINION SPEED R.P.M	HP TRANSMITTED	METHOD OF APPLICATION	ANTIWEAR MINERAL OIL	MILD EP OIL
1000 TO 2000	UNDER 10	CIRCULATION SPLASH	ENKLO 68	PARTHAN EP68
	10 TO 50	- DO -	ENKLO150	PARTHAN EP150
	OVER 50	- DO -	ENKLO 220	PARTHAN EP150
300 TO1000	UNDER 20	CIRCULATION	ENKLO 68	PARTHAN EP68
		SPLASH	ENKLO 150	PARTHAN EP150
	20 TO 75	CIRCULATION	<u>ENKLO 150</u>	PARTHAN EP150
		SPLASH	ENKLO 220	PARTHAN EP150
	OVER 75	CIRCULATION	ENKLO 220	PARTHAN EP150
		SPLASH	ENKLO 320	PARTHAN EP220
UNDER 300	UNDER 30	CIRCULATION	ENKLO 150	PARTHAN EP150
		SPLASH	ENKLO 220	PARTHAN EP150
	30 - 100	CIRCULATION	ENKLO 220	PARTHAN EP150
		SPLASH	ENKLO 320	PARTHAN EP220
	OVER 100	CIRCULATION	ENKLO 320	PARTHAN EP220
		SPLASH	ENKLO 460	PARTHAN EP320

**IN CASE OF SHOCK LOADING , MULTIPLY THE RATED HP BY 105 BEFORE USING TABLE.**

**CONT...**

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# HP Lubricants - Product Data Sheet



## GENERAL RECOMMENDATIONS FOR ENCLOSED SPUR, BEVEL AND HELICAL GEARS (FOR SPEED REDUCTION UPTO 10:1)

### LUBRICANT RECOMMENDED

PINION SPEED R.P.M	HP TRANSMITTED	METHOD OF APPLICATION	ANTIWEAR MINERAL OIL	MILD EP OIL
1000 TO 2000	UNDER 10	CIRCULATION	ENKLO 68	PARTHAN EP68
		SPLASH		
	10 TO 50	- DO -	ENKLO150	PARTHAN EP150
300 TO1000	OVER 50	- DO -	ENKLO 320	PARTHAN EP220
	UNDER 20	CIRCULATION	ENKLO 68	PARTHAN EP68
		SPLASH	ENKLO 150	PARTHAN EP150
	20 TO 75	CIRCULATION	ENKLO 150	PARTHAN EP150
	OVER 75	SPLASH	ENKLO 220	PARTHAN EP150
		CIRCULATION	ENKLO 220	PARTHAN EP220
UNDER 300	UNDER 30	SPLASH	ENKLO 320	PARTHAN EP320
		CIRCULATION	ENKLO 320	PARTHAN EP220
	OVER 30	CIRCULATION	ENKLO 320	PARTHAN EP320
		SPLASH	ENKLO 460	PARTHAN EP460

**IN CASE OF SHOCK LOADING, MULTIPLY THE RATED HP BY 105 BEFORE USING TABLE.**

**CONT...**

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# HP Lubricants - Product Data Sheet



## GENERAL RECOMMENDATIONS FOR ENCLOSED SPUR, BEVEL AND HELICAL GEARS (FOR SPEED REDUCTION UPTO 10:1)

<b>RUNNING SPEED FT PER MIN</b>	<b>COMPOUNDED/ ANTI WEAR</b>	<b>MILD EP TYPE OF OIL</b>
<b>UNDER 200</b>	<b>CYNDOL TC 680</b>	<b>PARTHAN EP 680</b>
<b>200 – 500</b>	<b>CYNDOL TC 460</b>	<b>PARTHAN EP 680</b>
<b>500 – 1000</b>	<b>ENKLO 320</b>	<b>PARTHAN EP 680</b>
<b>1000 – 2000</b>	<b>ENKLO 220</b>	<b>PARTHAN EP 680</b>

WHILE LUBRICATING OILS ARE THE BEST-SUITED PRODUCTS FOR THE LUBRICATION OF ANY MACHINE ELEMENT, THEIR USE IS NOT FEASIBLE IN SITUATION WHERE THE PRODUCT IS LIKELY TO LEAK OUT AND NOT REMAIN IN BEARING OVER EXTENDED PERIODS OF SERVICE. TO LUBRICATE SUCH SITUATIONS SATISFACTORILY, SOLID TO SEMI-SOLID MATERIALS OF DISPERSIONS OF THICKENING AGENTS IN LIQUID LUBRICANTS AND CONTAINING, IF NECESSARY, OTHER INGREDIENTS FOR IMPARTING SPECIAL PROPERTIES HAVE BEEN DEVELOPED. SUCH MATERIALS ARE KNOWN AS LUBRICATING GREASES.

HINDUSTAN PETROLEUM (HP) GREASE ARE THE OUTCOME OF MANY YEARS OF TECHNICAL AND SCIENTIFIC EXPERIENCE. THE PETROLEUM LUBRICATING OILS USED IN THEIR MANUFACTURE ARE CAREFULLY SELECTED TO GIVE EXCELLENT LUBRICATING CHARACTERISTICS. MODERN MANUFACTURING EQUIPMENT, SCIENTIFICALLY DEVELOPED FORMULAE, CAREFUL SUPERVISION, VAST MANUFACTURING EXPERIENCE AND ACCURATE CONTROLS ENSURE VERY HIGH MANUFACTURING STANDARDS RESULTING IN THE PRODUCTION OF COMPLETE RANGE OF GREASES OF PROVEN QUALITIES REQUIRED TO MEET THE SERVICE CONDITIONS PREVAILING IN THE MODERN SOPHISTICATED INDUSTRIAL MACHINES.

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# HP Lubricants - Product Data Sheet

## LITHIUM SOAP GREASES



### LITHON 2,3,EP1,EP2

THESE ARE LITHIUM SOAP MULTIPURPOSE GREASES HAVING EXCELLENT WATER RESISTANCE PROPERTIES, HIGH OXIDATION STABILITY, MAXIMUM STRUCTURAL STABILITY WITH SUPERIOR ANTI-RUST AND ANTI-CORROSION PROPERTIES. THEY MEET THE REQUIREMENTS OF ALL INDUSTRIAL GREASE APPLICATIONS FOR PLAIN AND ANTI-FRICTION BEARINGS. LITHON EP GREASE HAS IN ADDITION, SHEAR STABILITY, HIGH LOAD CARRYING CAPACITY AND IS RECOMMENDED FOR SITUATIONS DICTATING THE USE OF AN EXTREME PRESSURE MULTIPURPOSE GREASE.

LITHON 2 AND LITHON 3 MEET IS: 7623-1985 GRADE 2 AND 3 TYPE RESPECTIVELY. LITHON EP 1 & LITHON EP 2 MEET IS : 7623 :1985 GRADE 2 EP TYPE RESPECTIVELY. LITHON 2,3 MEET IPSS 1-09-006. LITHON EP 1, EP2 MEETS IPSS 1-0-005.

### LITHON M2

LITHIUM BASE MULTIPURPOSE GREASES CONTAINING MOLYBDENUM DISULPHIDE, WHICH MAKES IT SUITABLE FOR APPLICATIONS WHERE FRETTING CORROSION MAY BE A PROBLEM SUCH AS THE LUBRICATION FOR SPLINED SHAFTS.

CONT...

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# HP Lubricants - Product Data Sheet



## LITHIUM SOAP GREASES

### LITHOPLEX 2,3

LITHIUM BASE COMPLEX GREASES SPECIALLY DEVELOPED FOR BALL AND ROLLER BEARING LUBRICATION WHERE LONG LIFE AND TROUBLE – FREE PERFORMANCE ARE THE KEY REQUIREMENTS. THEY POSSESS OUTSTANDING OXIDATION AND MECHANICAL STABILITY, WATER RESISTANCE AND RUST PROTECTION PROPERTIES. THEIR EXCEPTIONALLY HIGH DROPPING POINT OVER 260 C GIVE THEM EXCELLENT RESISTANCE TO LEAKAGE, DRIPPING AND THROW – OFF AT ELEVATED OPERATING TEMPERATURES. THESE GREASES ARE SUITABLE FOR HIGH TEMPERATURE APPLICATIONS UP TO 190°C.

PROPERTIES	LITHON					LITHOPLEX		
	2	3	EP1	EP2	M2	1	2	3
<b>COLOUR</b>	<b>YELLOWISH</b>				<b>BLACK</b>	<b>GREEN</b>		
<b>WORK PENETRATION @25 DEG C</b>	265/295	220/250	310/340	265/295	265/295	310/340	265/295	230/250
<b>DROP POINT DEG-C</b>	180	180	180	180	180	250	260	260
<b>TYPE OF SOAP</b>	LITHIUM	LITHIUM	LITHIUM	LITHIUM	LITHIUM	LITHIUM COMPLEX		

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# HP Lubricants - Product Data Sheet



## CALCIUM SOAP GREASES

### LIMAPLEX 0,1, 2

THESE ARE CALCIUM COMPLEX GREASES HAVING INHERENT EXTREME PRESSURE ANTI-WEAR, ANTI-FRETTING AND LUBRICITY PROPERTIES DESIGNED TO COVER NEARLY ALL GREASES APPLICATION REQUIREMENTS. THEY ARE SUITABLE FOR USE UNDER BOTH DRY AND WET CONDITIONS AND DUE TO HIGH DROPPING POINT, THEY HAVE LESS TENDENCY TO SOFTEN WITH INCREASING TEMPERATURES.

### PLUTEX 1,2

THESE ARE EXTREME PRESSURE GREASES DESIGNED FOR HEAVILY LOADED BEARINGS BOTH PLAIN AND ANTI-FRICTION OPERATING AT MODERATE SPEEDS UPTO 2000 RPM AND TEMPERATURES UPTO 70 DEG-C. THEY HAVE EP PROPERTIES IN EXCESS OF 20 Kg TIMKEN OK LOAD, HIGH DEGREE OF RESISTANCE TO WATER WASHING AND EXCELLENT ADHESIVENESS. THEY ARE PRIMARILY DEVELOPED FOR THE LUBRICATION OF ANTI-FRICTION WORK-ROLL AND BACK-UP ROLL BEARINGS IN FERROUS AND NON-FERROUS ROLLING MILLS.

### DRAFTLUBE 1,2

FLUID GREASES HAVING ADHESIVE PROPERTIES WHICH MAKE THEM IDEAL LUBRICANTS FOR FLUTED ROLLER NECKS WEIGHT HOOKS, LOOSE BOSS ARBORS AND OTHER PUROSES IN TEXTILE MILLS

CONT...

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# HP Lubricants - Product Data Sheet

## CALCIUM SOAP GREASES



PROPERTIES	LIMPLEX			PLUTEK	
	0	1	2	1	2
<b>COLOUR</b>	<b>YELLOWISH</b>			<b>BROWN</b>	<b>BROWN</b>
<b>WORK PENETRATION @25 DEG C</b>	355/385	310/340	265/295	310/340	265/295
<b>DROP POINT DEG-C</b>	260	260	260	88	88
<b>TYPE OF SOAP</b>	CALCIUM COMPLEX			CALCIUM	CALCIUM

PROPERTIES	DRAFTLUBE	
	1	2
<b>COLOUR</b>	<b>AMBER</b>	<b>AMBER</b>
<b>CONSISTENCY (MOBILOMETER,SECS.)</b>	<b>25/30 (30 gm LOAD)</b>	<b>6/14 (25 gm LOAD)</b>

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# HP Lubricants - Product Data Sheet



## NON-SOAP GREASES

### TISON 2

A CLAY THICKENED GREASE HAVING GOOD OXIDATION RESISTANCE AND THERMAL STABILITY FOR USE IN BOTH PLAIN AND ANTI-FRICTION BEARINGS. IT CAN LUBRICATE SATISFACTORILY AT TEMPERATURE UP TO 230°C AND WILL NOT MELT OR SOFTEN APPRECIABLY EVEN AT HIGHER TEMPERATURE.

### TISONA M2

A CLAY THICKENED GREASE WITH MOLYBDENUM DISULPHIDE ADDED TO IT TO REDUCE FRICTION AT HIGH TEMPERATURES FURTHER FORTIFIED WITH ANTI-OXIDATION, ANTI-CORROSION AND ANTIWEAR ADDITIVES.

TISONAM M2 MEETS IS : 12790-1989 GRADE 3 AND IPSS : 1-09-008

PROPERTIES	TISONA	
	2	M2
<b>COLOUR</b>	<b>BROWN</b>	<b>BLACK</b>
<b>WORKED PENETRATION AT 25°C</b>	<b>260/290</b>	<b>280/310</b>
<b>DROP POINT, °C , MIN</b>	<b>250</b>	<b>280</b>

THESE ARE RECOMMENDED FOR THE LUBRICATION OF MACHINE ELEMENTS, PLAIN BEARINGS, ANTI-FRICTION BEARINGS OPERATING AT HIGH TEMPERATURE.

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# HP Lubricants - Product Data Sheet

## METAL CUTTING FLUIDS



THERE HAVE BEEN GREAT STRIDES IN MACHINE TOOL DESIGN AND CUTTING TOOL MATERIALS DUE TO NEW INDUSTRIAL MATERIALS DEVELOPED, HIGHER PRODUCTION DEMANDS AND THE EVER-SMALLER TOLERANCES TO WHICH COMPONENTS HAVE TO BE MACHINED. THIS HAS LED TO CORRESPONDING ADVANCES IN CUTTING FLUID TECHNOLOGY. CUTTING FLUIDS PLAY AN IMPORTANT ROLE IN SPEEDING UP PRODUCTION BY ENABLING INCREASED RATES OF METAL REMOVAL TO BE USED, AND BY REDUCING OR EVEN ELIMINATING PROBLEMS ASSOCIATED WITH SEVERE AND HAZARDOUS MACHINING OPERATIONS.

HPC HAS DEVELOPED A NUMBER OF CUTTING FLUIDS, EACH GRADE SELECTIVELY FORMULATED TO GIVE OPTIMUM PERFORMANCE ON A WIDE RANGE OF METALS. HPC CUTTING FLUIDS HAVE THE FOLLOWING CHARACTERISTICS.

- THESE CAUSE NO RUSTING OR CORROSION OF MACHINE ,WORK PIECE OR TOOL.
- THESE CAUSE NO DISCOLORATION OR STAINING.
- THESE DO NOT SMOKE OR FOG IN USE.
- THESE DO NOT HAVE OBJECTIONABLE ODOUR.
- THESE DO NOT DECOMPOSE CHEMICALLY IN USE.
- THESE RETAIN THEIR PHYSICAL PROPERTY IN USE.
- THESE DO NOT CONTAIN INGREDIENTS HARMFUL TO THE OPERATOR.

### WATER – MIX CUTTING FLUIDS

THESE PRODUCTS ARE EMULSIFIABLE IN WATER AND ARE A BLEND OF REFINED MINERAL OIL BASE STOCKS, EMULSIFIERS, ADDITIVES AND SUITABLE BACTERICIDES.

NOTE: SOLUBLE CUTTING OILS ARE NOT RECOMMENDED TO BE USED FOR MACHINING OF MAGNESIUM AND ITS ALLOYS.

CONT...

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# HP Lubricants - Product Data Sheet



## METAL CUTTING FLUIDS

### PREPARATION OF SOLUBLE OIL EMULSION

IN PREPARING THE EMULSION OF SOLUBLE OILS WITH WATER, THE PRODUCT IS ALWAYS ADDED TO THE WATER AND NOT VICE VERSA TO PREVENT INVERSION OF THE EMULSION. THE REQUISITE QUANTITY OF PRODUCT IS ADDED TO TWO OR THREE PARTS OF WATER TO FORM A CONCENTRATED EMULSION, WHICH IS SUBSEQUENTLY DILUTED WITH THE REQUISITE QUANTITY OF WATER. THE EMULSION IS APPLIED COPIOUSLY TO FLOOD THE WORK AND THE TOOL AT THE MACHINING AREA. THIS ENSURES SATISFACTORY PERFORMANCE.

### CHECKING OIL CONCENTRATION

THE OIL CONCENTRATION IN AN EMULSION WITH HYDROCHLORIC ACID OR SATURATED SALT SOLUTION SUCH AS EPSOM SLAT. BY NOTHING THE OIL QUANTITY THAT HAS SEPARATED THE VOLUME OF OIL OR WATER TO BE ADDED IN EMULSION CAN BE DETERMINED.

### CONTROL OF OFFENSIVE ODOUR IN SOLUBLE OIL EMULSION.

OFFENSIVE ODOUR SOMETIMES DEVELOPS DURING THE USE OF SOLUBLE OILS. IN SOME INSTANCES, THIS HAS BEEN ACCOMPANIED BY A CHANGE OF THE COLOUR OF THE EMULSION. THESE CONDITIONS ARE DEVELOPED IN MOST CASES DUE TO THE PRESENCE OF BACTERIA IN WATER / EMULSIONS. THE SOURCE OF THESE ORGANISMS ARE MANY SUCH AS SWEEPING FROM THE SHOP FLOORS, THE SOURCE OF WATER AND ITS QUALITY, AND UNHYGIENIC PRACTICES IN THE SHOP SUCH AS SPITTING

CONT...

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# HP Lubricants - Product Data Sheet



## METAL CUTTING FLUIDS

THE UNDER MENTIONED PREVENTIVE MEASURES ARE HELPFUL FOR CONTROL OF OFFENSIVE ODOUR

- PRE-TREATMENT OF WATER USED IN PREPARING EMULSION
- AVOIDING OIL BLANKET ON THE SURFACE OF EMULSION IN THE SUMP
- AERATION OF EMULSION.
- FREQUENT REMOVAL OF CHIPS AND FINES FROM THE SUMP.
- PERIODIC CLEANING OF THE COOLANT RESERVOIR AND SYSTEM

### WATER HARDNESS

HARDNESS IN WATER IS EXPRESSED AS GRAINS OF CALCIUM CARBONATE PER GALLON OR PARTS OF CALCIUM CARBONATE PER MILLION PARTS OF WATER.

PRACTICAL GUIDE FOR CLASSIFYING WATER HARDNESS	
<b>VERY SOFT WATER</b>	<b>LESS THAN 15 PPM (ONE GRAIN PER GALLON)</b>
<b>SOFT WATER</b>	<b>15 - 50 PPM (1 TO 3 GRAIN PER GALLON)</b>
<b>MEDIUM HARD WATER</b>	<b>50 - 100 PPM (3 TO 6 GRAIN PER GALLON)</b>
<b>HARD WATER</b>	<b>100 - 200 PPM (6 TO 12 GRAIN PER GALLON)</b>
<b>VERY HARD WATER</b>	<b>OVER 200 PPM (ONE 12 GRAINS PER GALLON)</b>

BETTER EMULSIFICATION SOLUBLE OILS WITH HARD WATER IS OBTAINED ;BY SOFTENING THE WATER PRIOR TO ITS USE.

CONT...

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# HP Lubricants - Product Data Sheet

## METAL CUTTING FLUIDS



### *KOOLKUT 40*

THIS IS GENERAL-PURPOSE EMULSIFIABLE OIL AND FORMS MILKY WHITE EMULSION. IT MEETS THE REQUIREMENTS AS SPECIFIED BY IS: 1115-1986 (RE-AFFIRMED IN 1991) AND ZX- OF DEFENCE STANDARD. IT IS SUITABLE FOR ALL METALS FOR ALL MACHINING OPERATIONS WHERE EMULSIFIABLE OIL ARE NORMALLY USED. THE MOST COMMON EMULSION STRENGTH USED FOR MACHINING RANGES FROM 5 TO 10 PERCENT DEPENDING ON THE SEVERITY OF MACHINING.

### *KOOLKUT 60*

THIS FORMS A TRANSLUCENT EMULSION USEFUL FOR ALL APPLICATIONS REQUIRING SOLUBLE OIL WHERE SIGHT OF THE WORK PIECE IS IMPORTANT. THE ULTRA FINE DISPERSION OF THE OIL GLOBULES REDUCES GRINDING WHEEL CLOGGING AND LOW OIL CONTENT EMULSION MAY BE USED SAFELY WITHOUT LOSS OF NON-CORROSIVE PROPERTIES. THE MOST EMULSION STRENGTH USED FOR MACHINING RANGES FROM 5 TO 10 PERCENT DEPENDING ON THE SEVERITY OF MACHINING. MEETS IS: 9611-1980 SPCS.

### *KOOLKUTE EP 66*

THIS IS HEAVY-DUTY SOLUBLE OIL, WHICH CONTAINS EXTREME PRESSURE ADDITIVES. ITS MAIN APPLICATION IS WITH HIGH-SPEED STEEL TOLLS IN PRACTICALLY ALL MAJOR CUTTING PROCESSES AND ON MOST METALS, INCLUDING DIFFICULT ALLOY STEEL. IT IS MORE EFFECTIVE THAN ORDINARY EMULSIFIABLE OILS IN EXTENDING TOOL LIFE. THE MOST COMMON EMULSION STRENGTH USED FOR MACHINING RANGES FROM 5 TO 10 PERCENT DEPENDING ON THE SEVERITY OF MACHINING.

CONT...

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# HP Lubricants - Product Data Sheet



## METAL CUTTING FLUIDS

### KOOLKUT 70

IT IS SOLUTION TYPE FLUID THAT CONTAINS NO OIL. IT CONSISTS OF SPECIAL CORROSION PREVENTIVE ADDITIVES IN WATER. IT IS SUPPLIED AS CONCENTRATE, WHICH MUST BE MIXED WITH WATER IN A SUITABLE PREPARATION. THE SOLUTION PROVIDES AN ECONOMICAL, RUST PREVENTIVE COOLANT OF EXCEPTIONALLY SUPERIOR PROPERTIES FOR GRINDING OR HIGH SPEED MACHINING. DILUTION RATIO RECOMMENDED WITH WATER IS 2-4 PERCENT, DEPENDING ON THE TYPE OF MACHINING.

### KOOLKUT 80

IT IS SUPERIOR QUALITY MINERAL BASE EMULSIFIABLE TYPE OF CUTTING FLUID, WHICH IS PRIMARILY AIMED FOR LONGER PERIODS OF OPERATION. THE OIL ACTS ON INVERSE SOLUBILITY PHENOMENON TO PROVIDE EXCELLENT COOLING IF THE CUTTING SPEED ARE DESIRED TO BE INCREASED THAN NORMAL. IN ADDITION IT HAS THE FOLLOWING CHARACTERISTICS.

- BETTER LUBRICITY
- SUITABILITY FOR MULTI-METAL, MULTI OPERATION MACHINING
- EXCELLENT PH STABILITY
- BIO-STABLE EMULSIONS-EASY FOR HANDLING AND DISPOSAL.

KOOLKUT 80 IS RECOMMENDED FROM 3 TO 5% CONCENTRATION. IT MEET THE REQUIREMENTS AS SPECIFIED BY IS : 1115 – 1986 (RE- AFFIRMED IN 1991)

CONT...

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# HP Lubricants - Product Data Sheet



## METAL CUTTING FLUIDS

PROPERTIES	KOOLKUT				
	40	60	EP 66	70	80
<b>EMULSION TEST</b>	MILKY EMULSION	TRANSLUCENT EMULSION	SLIGHT YELLOWISH EMULSION	TRANSPARENT YELLOW FLUORESCENT SOLUTION	MILKY EMULSION
<b>LOW TEMPERATURE EMULSION STABILITY</b>	PASS	PASS	PASS	PASS	PASS
<b>FOUR BALL EP VALUE OK LOAD (KG), MIN</b>	--	--	180	--	--

### SYNTHKOOL 100

IT IS SEMI-SYNTHETIC CUTTING FLUID THAT IS COMPLETELY WATER-SOLUBLE. IT IS SUPPLIED AS A CONCENTRATE THAT CONSISTS OF CAREFULLY SELECTED RUST PREVENTIVE ADDITIVES AND OTHER PERFORMANCE IMPROVERS IN A WATER SOLUTION.

THE CONCENTRATE SHOULD BE DILUTED IN THE RATIO OF 2-4% IN WATER. THE RESULTANT SOLUTION PROVIDES EXCEPTIONAL ANTI-RUST & COOLING PROPERTIES WHEN USED IN GRINDING AND OTHER HIGH SPEED MACHINING OPERATIONS. IT IS HIGHLY RESISTANT TO BACTERIAL ATTACK AND PROVIDES LONG LIFE IN USE.

PROPERTIES	SYNTHKOOL 100
<b>COPPER STRIP CORROSION 3HR @ 100°C, MAX</b>	1
<b>CAST IRON CORROSION TEST 1:40 IN DISTILLED WATER</b>	PASS
<b>FOUR BALL TEST OK LOAD KG., MIN</b>	180

CONT...

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# HP Lubricants - Product Data Sheet

## METAL CUTTING FLUIDS



### STRAIGHT CUTTING FLUIDS

THESE PRODUCTS ARE A BLEND OF REFINED MINERAL OILS AND ADDITIVES. SULFUR AND CHLORINE ARE INCORPORATED TO IMPART EXTREME PRESSURE (EP) PROPERTIES. HIGH QUALITY FATTY OILS ARE ADDED TO PROVIDE IMPROVED LUBRICATION UNDER BOUNDARY CONDITIONS AND ALSO TO IMPART WETTING CHARACTERISTICS.

STRAIGHT CUTTING FLUIDS ARE USED AS SUPPLIED WITHOUT ANY DILUTION, TO OBTAIN OPTIMUM PERFORMANCE. THE PRODUCTS ARE APPLIED COPIOUSLY TO FLOOD THE WORK – TOOL – CHIP AREA THOROUGHLY TO DERIVE MAXIMUM BENEFITS OF COOLING VITALLY NEEDED TO INCREASE TOOL LIFE AND PRODUCTION.

TRIMOFIN SERIES CAN BE CLASSIFIED UNDER THREE MAIN CATEGORIES.

- HIGH OILINESS TYPE
- EP OILS NON-STAINING TYPE
- EP OILS STAINING TYPE

STRAIGHT CUTTING FLUIDS (OILINESS TYPE)

### TRIMOFIN 14

IT IS LIGHT COLOURED LOW VISCOSITY OIL RECOMMENDED FOR USE IN MACHINING ALL NON-FERROUS METALS EXCEPT TITANIUM. THIS PRODUCT HAS TRANSFER PROPERTIES TO COOL EFFECTIVELY UNDER HIGH-SPEED CONDITIONS. IT IS IDEALLY SUITED FOR HONING OPERATIONS.

CONT...

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# HP Lubricants - Product Data Sheet



## METAL CUTTING FLUIDS

### TRIMOFIN 15

IT IS A VERY LIGHT COLOURED OIL WITH LOW VISCOSITY AND IS USEFUL FOR MACHINING ALL NON-FERROUS METALS (EXCEPT TITANIUM) WHERE A LOW VISCOSITY OIL OF NON-STAINING BEHAVIOR IS REQUIRED. IT HAS GOOD HEAT TRANSFER PROPERTIES AND THEREFORE EFFECTIVELY COOLS THE TOOL AND WORK PIECE, UNDER HIGH SPEED CONDITIONS AT WHICH METALS LIKE ALUMINUM, MAGNESIUM, ZINC AND THEIR ALLOYS ARE MACHINED. TRIMOFIN 15 IS PARTICULARLY SUITABLE AS A HONING OIL.

### TRIMOFIN 16 AND 18

THESE PRODUCTS HAVE HIGHER VISCOSITY THAN TRIMOFIN 15. THEY HAVE SUPERIOR METAL WETTABILITY AND PROVIDE BETTER COOLING IN CONDITION OF INCREASED OPERATIONAL SEVERITY.

TRIMOFIN 18 IS MOST HEAVILY COMPOUNDED OIL. IT IS PARTICULARLY ACCEPTABLE FOR DRAWING OF NON-FERROUS RODS AND TUBING.

TRIMOFIN 18 MEETS IS : 3065 – 1985 TYPE I, GRADE II SPECIFICATIONS (RE-AFFIRMED IN 1990)

CONT...

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## METAL CUTTING FLUIDS

PROPERTIES	TRIMOFIN			
	14	15	16	18
VISCOSITY, CST@ 40 <sup>0</sup> C	2.2 - 8.4	3.0 - 9.0	20.1 - 24.8	20.1 - 24.8
FLASH POINT, COC, °C, MIN	110	110	160	150 (PMCC)
COPPER STRIP CORROSION 3 HR @ 100°C , (ASTM), MAX	1	1	1	1
SAPONIFICATION NUMBER MG KOH/GM	6.0 – 8.5	6.0 – 8.5	9.5 – 10.5	18 – 21
TOTAL ACIDITY, MG KOH/GM OIL, MAX	-	-	0.1	0.2

### STRAIGHT CUTTING FLUIDS(NONSTAINING TYPE)

#### TRIMOFIN 20

IT IS LIGHT COLOURED PRODUCT CONTAINING CHLORINATED EP ADDITIVE. THIS PRODUCT IS RECOMMENDED FOR USE IN AUTOMOBILE, BEARING AND WATCH INDUSTRIES FOR HONING, LAPPING AND SUPER FINISHING OPERATIONS OF FERROUS AND NON-FERROUS METALS.

CONT...

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# HP Lubricants - Product Data Sheet

## METAL CUTTING FLUIDS



### TRIMOFIN 21

THIS IS A LOW VISCOSITY; LIGHT COLOURED PRODUCT CONTAINING CHLORINATED EP AND OILINESS ADDITIVES. IT IS SUITABLE FOR MACHINING OPERATION ON MILD STEELS, CARBON STEEL, NICKEL STEELS AND MANGANESE STEELS AND ITS USE MAY BE EXTENDED TO COPPER, ALUMINUM AND THEIR ALLOYS IF REQUIRED. TRIMOFIN 21 MEETS IS : 3065-1985 TYPE I, GRADE II (RE-AFFIRMED IN 1990) REQUIREMENTS.

### TRIMOFIN 23

THIS PRODUCT CONTAINS ADDITIVES, WHICH IMPART HIGH OILINESS AS WELL AS EP PROPERTIES. IT AFFORDS GOOD COOLING, CHIP FLUSHING AND PENETRATION. IT IS SUITABLE FOR HIGH SPEED AUTOMATIC MACHINE TOOLS AND MAY ALSO BE USED AS A GENERAL PURPOSE MACHINE TOOL LUBRICANT. TRIMOFIN 23 MEETS IS : 3065-1985 TYPE I, GRADE II (RE-AFFIRMED IN 1990) AND ALSO MEETS OILS ZX – 6 REQUIREMENTS.

### TRIMOFIN 25

THIS CONTAINS A HIGHER OILINESS ADDITIVE THAN TRIMOFIN 23 AND ALSO CONTAINS INACTIVE SULFUR. IT FINDS APPLICATION ON MULTISPINDLE LATHES WHERE A NUMBER OF OPERATIONS LIKE TURNING, HONING, CHAMFERING ETC ARE PERFORMED.

CONT...

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## METAL CUTTING FLUIDS

### TRIMOFIN 26

THIS CONTAINS BOTH CHLORINE AS WELL AS INACTIVE SULFUR AND IS MORE POTENT THAN THE TRIMOFIN GRADES LISTED ABOVE. IT ALSO CONTAINS OILINESS ADDITIVE AND IS SUITABLE FOR MOST OPERATIONS ON MEDIUM-MACHINABILITY METALS AND EVEN FOR SEVERE OPERATIONS ON SOME OF THE FREE CUTTING STEELS AND ALLOYS.

### TRIMOFIN 27

THIS IS A BLEND OF LOW VISCOSITY MINERAL OILS OILINESS ADDITIVES AND CONTAINS CHLORINE AND INACTIVE SULFUR. BY VIRTUE OF ITS LOW VISCOSITY, IT HAS EXCELLENT COOLING AND CHIP FLUSHING ABILITY. IT FINDS USE IN GUN DRILLING OPERATIONS AND IS FOUND TO BE PARTICULARLY USEFUL ON PULL – HONING MACHINES.

	20	21	23	25	26	27
<b>VISCOSITY, CST@ 40<sup>0</sup> C</b>	4.0-6.5 (@ 100 <sup>0</sup> C)	20-30	27-42	31-42	23-36	8-17
<b>FLASH POINT, COC, °C, MIN</b>	110	160	160	160	160	145
<b>SAPONIFICATION NUMBER MG KOH/GM</b>	-	9-10.5	9.0	-	-	-
<b>CONTIANS : INACTIVE SULFUR</b>	X	X	√	√	√	√
<b>ACTIVE SULFUR</b>	X	X	X	X	X	X
<b>CHLORINE</b>	√	√	X	X	√	√

CONT..

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# HP Lubricants - Product Data Sheet



## METAL CUTTING FLUIDS

### STRAIGHT CUTTING OILS (STAINING TYPE)

#### TRIMOFIN 54

THIS PRODUCT CONTAINING SULFUR PLUS ADDITIVES. IT IS A LOW VISCOSITY GRADE SPECIALLY DEVELOPED FOR DEEP HOLE DRILLING AND PRECISION GRINDING OF ALL KINDS OF STEEL. IT IS ALSO USED IN OTHER MACHINING OPERATIONS WHERE LOW VISCOSITY IS REQUIRED AND IS RECOMMENDED FOR THREAD ROLLING. IT MEETS THE REQUIREMENTS OF IS : 3065 TYPE III SPECS.

#### TRIMOFIN 55

THIS IS A MEDIUM VISCOSITY DARK BROWN OIL CONTAINING ACTIVE SULFUR, CHLORINE AND OILINESS ADDITIVE. IT IS SUITABLE FOR ALL MACHINING OPERATIONS ON HIGH TENSILE STEEL AND FOR LESS SEVERE OPERATIONS ON STAINLESS AND HEAR RESISTANT ALLOYS. IT IS ALSO RECOMMENDED FOR GEAR HOBGING, THREAD-CUTTING MACHINES ETC.,

#### TRIMOFIN 56

THIS GRADE IS SIMILAR IN VISCOSITY AND APPEARANCE TO TRIMOFIN 55 BUT HAS A MORE POTENT ADDITIVE PACKAGE. IT HAS SIMILAR APPLICATION BUT GIVES IMPROVED FINISHED AND TOOL LIFE PARTICULARLY IN THREADING, TURNING, BROACHING, TREPANNING AND THREAD GRINDING OPERATIONS.

CONT...

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## METAL CUTTING FLUIDS

### TRIMOFIN 58

IT IS DARK CLOLOURED MEDIUM VISCOSITY PRODUCT CONTAINING A HIGH DOSAGE OF SULFUR AND IS USED WHERE COLOUR OF OIL IS UNIMPORTANT. IT IS RECOMMENDED FOR HEAVY DUTY THREADING, TAPPING AND BROACHING.

PROPERTIES	TRIMOFIN			
	54	55	56	58
VISCOSITY, CST@ 40 <sup>0</sup> C	12.7-23.2	32 – 42	32 – 45	29 – 38
FLASH POINT, COC, °C, MIN	135	160	160	160
SAPONIFICATION MATTER % BY WT	5	1.5	1.5	-
CONTIANS : INACTIVE SULFUR	√	X	√	X
ACTIVE SULFUR	√	√	√	√
CHLORINE	X	√	√	X

CONT...

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# HP Lubricants - Product Data Sheet



## METAL CUTTING FLUIDS

### TRIMOL 225

THIS IS A NEW GENERATION METAL WORKING PRODUCT BLENDED WITH LOW VISCOSITY REFINED MINERAL OIL AND SUPERIOR ADDITIVES TO PROVIDE A BETTER FILM FORMING CAPABILITY. THE OIL ALSO CONTAINS CHLORINATED EXTREME PRESSURE ADDITIVE TO PROVIDE ADEQUATE EP PROPERTIES.

- EXCELLENT LUBRICITY
- GREATER PENETRATION
- EFFECTIVE COOLING
- CHIPFLUSHING ABILITY

ALL ABOVE FACTORS RESULT IN BETTER SURFACE FINISH AND PROLONGED TOOL LIFE.

THE OIL IS RECOMMENDED FOR ALL MACHINING OPERATIONS INVOLVING HIGH SPEEDS AND LOW TO MODERATE SEVERITY. IT IS ALSO RECOMMENDED FOR HONING AND OTHER SUPER FINISHING OPERATIONS.

PROPERTIES	TRIMOL 225
APPEARANCE	RED
VISCOSITY, CST@ 40 <sup>0</sup> C	20. – 7.5
FLASH POINT, COC, °C, MIN	90
EP VALUE (4 BALL TEST)	
OK LOAD – KG., MIN	250
WELD LOAD – KG., MIN	270
COPPER STRIP CORROSION, 3HR @ 100 <sup>0</sup> C , MAX	1

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# HP Lubricants - Product Data Sheet



## METAL ROLLING OILS

### HP HOT ROLLING OIL

HP HOT ROLLING OIL IS A PREMIUM QUALITY ROLLING OIL BLENDED FROM REFINED MINERAL OILS AND SELECTED ADDITIVES FOR USE IN ROLLING SHEETS AND SECTIONS. THE OIL POSSESSES EXCELLENT CHEMICAL, THERMAL AND OXIDATION STABILITY MAKING IT SUITABLE FOR ALL SEVERE-ROLLING CONDITIONS OF OPERATION. IN ADDITION IT HAS EXCELLENT DISPERSANCY FOR UNIFORM ROLL PASS LUBRICATION ALONG WITH GOOD EMULSIBILITY, ANTIWEAR AND PLATE OUT CHARACTERISTICS. FOLLOWING BENEFITS ARE DERIVED BY USING THE PRODUCT.

REDUCTION IN ROLLING MILL POWER  
INCREASED ROLL LIFE  
IMPROVED QUALITY OF SURFACE FINISH

HP HOT ROLLING OIL IS RECOMMENDED FOR USE IN STEEL HOT ROLLING IN PROPORTIONS OF 1% TO 15% BY VOLUME WITH WATER

PROPERTIES	HP HOT ROLLING OIL
VISCOSITY, CST@ 100 <sup>0</sup> C	14
FLASH POINT, COC, °C, MIN	210
POUR POINT, °C, MAX	0
SAPONIFICATION VALUE MG KOH/GM	90
FREE FATTY ACID (AS OLEIC ACID) %	3

CONT...

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# HP Lubricants - Product Data Sheet



## METAL ROLLING OILS

ROLLING OF METALS IS A PROCESS BY WHICH THE THICKNESS OF THE METAL IS REDUCE TO THE DESIRED LEVEL BY MEANS OF ROTATING ROLLS IN A MILL . THE TECHNIQUE OF METAL ROLLING LARGELY DEPENDS UP ON THE MATERIALS PROCESSED, EQUIPMENT USED AND THE OPERATING CONDITIONS WHICH ALSO NECESSITATE THE USE OF THE WIDE RANGE OF ROLLING FLUIDS WITH PROPERTIES VARYING ACCORDING TO THE TYPE OF THE METAL AND THE CONDITION OF ROLLING.

### FUNCTION:

- REDUCTION FRICTION.
- GOOD CONDUCTOR OF HEAR.
- GOOD DEMULSIBILTIY
- GOOD OXIDATION STABILITY
- NON-CORROSIVE
- NON-STAINING
- NON-TOXIC.

### ROLMET N 34

THIS IS AN EXCELLENT NON-STAINING OIL FOR COLD-ROLLING OF COPPER AND COPPER ALLOYS SUCH AS BRASS AND GERMAN SILVER. IT IS ALSO USED FOR COLD -ROLLING CARBON STEEL AND STAINLESS STEEL STRIPS. THIS MULTIPURPOSE ROLL OIL CAN BE USED IN ALL TYPES OF MILLS,INCLUDING MULTIROLLER MILLS SUCH AS S SENDIZIMIR AND SUNDWIG, WHERE IT CAN BE USED TO LUBRICATE THE MILL BEARINGS.

CONT...

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# HP Lubricants - Product Data Sheet



## METAL ROLLING OILS

### ROLMET 40

THIS IS SPECIALLY SUITED FOR USE IN SENZIMIR MILLS FOR BOTH FERROUS AND NON-FERROUS METALS. IN THESE MILLS ROLMET 40 ALSO ACTS AS THE LUBRICANT FOR THE PRECISION ROLL SUPPORT BEARING. IT HAS GOOD CORROSION PROTECTION CHARACTERISTICS.

### ROLMET V 45

THIS IS COMPOUNDED ROLL OIL WHICH IS NON-STAINING AND PROVIDES EXCELLENT PERFORMANCE IN BOTH FERROUS AND NON FERROUS METALS. IT IS PARTICULARLY USEFUL FOR COLD ROLLING OF CARBON AND ALLOY STEEL, BRASS AND COPPER.

### ROLMET C 12

ROLMET C 12 IS PREMIUM QUALITY ROLLING OIL MANUFACTURED FROM HIGHLY SOLVENT REFINED MINERAL OILS FORTIFIED WITH SUITABLE ADDITIVES. IT IS USED FOR COLD ROLLING OF COPPER AND COPPER ALLOYS SUCH AS BRASS AND GERMAN SILVER. THIS OIL IS RECOMMENDED IN ALL TYPES OF MILLS INCLUDING MULTIROLLER MILLS LIKE

SENZIMIR AND SUNWIG. IT IS ALSO USED FOR MILL BEARING LUBRICATION.

CONT...

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# HP Lubricants - Product Data Sheet



## METAL ROLLING OILS

PROPERTIES	ROLMET			
VISCOSITY, CST@ 40 <sup>0</sup> C	N34	40	V45	C12
FLASH POINT, COC, °C, MIN	10.2 (MAX)	18 - 28	17 - 28	10 - 13
NEUT NO.MG /KOH /GM, MAX	148	160	160	150
COPPER STRIP CORROSION 3HR @100°C, MAX	0.05	1	0.5	0.05
SAPONIFICATION VALUE ,MG KOH/GM, MAX	3	-	8 - 10	-

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## QUENCHING OILS

THE TERM QUENCHING NORMALLY REFERS TO THE CONTROLLED COOLING OF STEEL COMPONENTS IN A FLUID TO GIVE SPECIFIED PROPERTIES. THE HARDNESS AND THE OTHER PHYSICAL PROPERTIES OBTAINED DEPEND UP ON THE COMPOSITION OF THE STEEL, THE DIMENSION OF THE COMPONENT, THE TIME AND TEMPERATURE OF THE HEAT TREATMENT AND THE SPEED AND DURATION OF THE QUENCHING PROCESS.

A NUMBER OF QUENCHING MEDIUMS SUCH AS MOLTEN SALTS, BRINE SOLUTIONS AND SYNTHETIC QUENCHANTS CAN BE USED, BUT PETROLEUM BASED QUENCHING MEDIA FIND THE WIDEST APPLICATION DUE TO THE FOLLOWING ADVANTAGE.

- THEY ARE EASIER TO CONTROL AND GIVE UNIFORM HARDNESS.
- SUITABLE FOR LARGE SCALE AUTOMATION
- THESE ARE NON-CORROSIVE AND NON-TOXIC.

METAQUENCH GRADES HAVE BEEN SPECIALLY FORMULATED FROM HIGHLY REFINED PETROLEUM OILS WITH ADDITIVES AND HAVE THE FOLLOWING CHARACTERISTICS.

- GOOD THERMAL PROPERTIES
- GOOD CHEMICAL AND OXIDATION STABILITY
- HIGH BOILING POINTS AND LOW VOLATILITY
- HIGH FLASH AND FIRE POINTS
- 

METAQUENCH 39,40

THESE ARE BLENDS OF REFINED BASE OILS AND CONTAIN NO ADDITIVES. METAQUENCH 39 IS RECOMMENDED FOR GENERAL PURPOSE QUENCHING OF COMPONENTS AND IS  
CONT...

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# HP Lubricants - Product Data Sheet



## QUENCHING OILS

PARTICULARLY SUITABLE FOR QUENCHING OF CYANIDED PARTS. METAQUENCH 40 IS SUITABLE IN SITUATIONS WHERE LOWER QUENCHING SPEED IS DESIRED. THESE MEET THE REQUIREMENT OF IS:2664-1980( RE-AFFIRMED IN 1987) STRAIGHT MINERAL TYPE GRADE MEDIUM AND HEAVY RESPECTIVELY.

### **METAQUENCH 42**

THIS IS A BLEND OF REFINED PETROLEUM OILS AND HIGH QUALITY FATTY OILS. IT HAS GOOD WETTING CHARACTERISTICS AND HAS A HIGHER QUENCHING SPEED COMPARED TO METAQUENCH 39 AND METAQUENCH 40 RECOMANDED FRO GENERAL PURPOSE QUENCHING OPERATION BUT IS NOT SUITABLE FOR QUENCHING OF CYANIDED PARTS. IT MEETS THE REQUIREMENT OF IS:2664-1980 ( RE-AFFIRMED IN 1987) COMPOUNDED TYPE.

### **METAQUENCH 43**

IT IS AN ADDITIVE TYPE OF QUENCHING OIL WITH GOOD DISPERSING CHARACTERISTICS AND HAS EXCELLENT HEAT TRANSFER PROPETIES. THE CAREFULLY SELECTED ADDITIVE INCORPORATED IN THE OIL CONTROLS SOILING OF METALIC PARTS DURING QUENCHING BY PREVENTING DIRT FROM ACCUMULATING ON THE METAL AND THERE BY ENSURES UNIFORMS HARDNESS WITH MINIMUM QUENCH DISTRITION. IT MEETS THE REQUIREMENTS OF IS:2664-1980, ( RE-AFFIRMED IN 1987) ADDITIVE TYPE.

CONT...

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## QUENCHING OILS

### METAQUENCH 44

IT IS ALSO AN ADDITIVE TYPE OF QUENCHING OIL WITH BALANCED PROPORTION OF HIGH VISCOSITY INDEX BASE OILS. THE OPTIMUM VISCOSITY WITH SUPERIOR ADDITIVE CHEMISTRY PROVIDING A FASTER COOLING RATES ON COOLING RATES IN COLD QUENCHING OPERATIONS. IT IS RECOMMENDED FOR ALL THE OPERATIONS WHERE HIGHER SURFACE HARDNESS IS REQUIRED. THE OIL GIVES MINIMAL QUENCH DISTORTIONS. IT MEETS THE REQUIREMENTS OF IS:2664-1980,(RE-AFFIRMED IN 1987) ADDITIVE TYPE.

PROPERTIES	METAQUENCH				
	39	40	42	43	44
VISCOSITY.CST @ 40°C	23-33	58-73	20-33	20-33	20-33
VISCOSITY INDEX MIN	90	90	90	90	90
FLASH POINT, COC °C MIN	190	220	190	190	170
NEUT.NO.MG KOH/GM.MAX	0.1	0.1	1.3	0.6	-
COPPER STRIP CORROSION 3HR @ 100C MAX	1	1	1	1	1
GM QUENCHOMETER READING ASTM D 3520 SECONDS	23.6	24.6	20.6	17.8	8.9

CONT...

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# HP Lubricants - Product Data Sheet



## QUENCHING OILS

### METAQUENCH 85

A MARQUENCHING OIL SUITABLE FOR MAINTAINING THE QUENCHING BATH AT 150 TO 220C. IT IS RECOMMENDED FOR MASS PRODUCTION OF HIGH PRECISION , HIGH QUALITY PRODUCTS. SUCH AS BEARING RACES , AUTOMOTIVE GEARS AND COMPONENTS. IT GIVES LOW AND PREDICTABLE QUENCH DISTORTIONS CUTTING DOWN REJECTS. IT MEETS THE REQUIREMENT OF IS 4543-1997 ( REAFFIRMED IN 1987)

### METAQUENCH 86

IT IS A HOT QUENCHING OIL WITH A FASTER COOLING RATE THAN METAQUENC 85. THE OIL HAS EXCELLENT CHEMICAL AND THERMAL STABILITY TO GIVE A LONGER SERVICE OF LIFE. IT IS RECOMMENDED FOR QUENCH OPERATIONS OF VARIOUS AUTOMOTIVE COMPONENTS SUCH AS GEARS , SHAFTS EC. FOR ACHIEVING HIGHER CORE HARDNESS WITH MINIMUM DISTORTION. IT MEETS THE REQUIREMENT OF IS 4543-1997 ( RE-AFFIRMED IN 1987)

PROPERTIES	METAQUENCH	
	85	86
VISCOSITY cSt @ 40C	13-18	14-18
VISCOSITY INDEX,MIN	90	90
FLASH POINT,COC,C , MIN	230	230
NEUT. No.mg KOH/gm,MAX.	2.0	2.0
COPPER STRIP CORROSION		
3 Hrs @ 100C , MAX	1	1
GM QUENCHOMETER	30.6	13.8
READING ASTM D3520		
SECONDS		

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# HP Lubricants - Product Data Sheet



## RUBBER PROCESS OILS

RUBBER PROCESS OILS CAN BE BROADLY CLASSIFIED INTO THREE BASIC GROUPS DEPENDING ON THE PHYSICAL ARRANGEMENT OF THE CARBON ATOMS NAMELY , PARAFINICS , NAPHTHENICS AND AROMATICS.

ALL PETROLEUM OILS ARE MIXTURES OF VARIOUS HYDROCARBON GROUPS AND THEIR CLASSIFICATION IS ARBITRARY AND IS BASED ON THE PREDOMINANCE OF A PARTICULAR HYDROCARBON GROUP.

### ELASTO 165:

THIS IS A HIGHLY PARAFFINIC MEDIUM VISCOSITY TYPE OF OIL SPECIFICALLY DEVELOPED FOR USE AS PLASTICISER IN THE MANUFACTURE OF EPDM RUBBERS. THE OIL ALSO POSSESSES GOOD RESISTANCE TO EVAPORATION LOSS.

### ELASTO 245:

IT IS A LIGHT COLOURED PARAFFINIC TYPE OF OIL AND HAS GOOD COLOUR STABILITY. IT ALSO HAS HIGH FLASH POINT AND GOOD HIGH TEMPERATURE PROPERTIES , BUT IT HAS LOW SOLVENCY. IT FINDS GREATEST USE IN BUTYL AND ETHYLENE PROPYLENE RUBBER. IT IS RECOMMENDED TO USE FOR THE PROCESSING OF LIGHT COLOURED RUBBER GOODS SUCH AS WHITE WALLED TYRES, SHOE SOLES , TOYS , SOPRTING GOODS, ETC.

### ELASTO 255

THIS IS A HIGHLY PARAFFINIC TYPE OIL SPECIALLY DEVELOPED FOR COMPOUNDING PURPOSE OF SHOE SOLE APPLICATION. THE OIL HAS MODERATE SOLVENCY POWER WITH LOW EVAPORATION LOSS.

CONT...

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## RUBBER PROCESS OILS

### ELASTO 541

THIS IS A NAPHTHENIC TYPE OF OIL AND HAS FAIRLY GOOD COLOUR STABILITY WITH ADEQUATE HIGH TEMPERATURE PROPERTIES . ITS SOLVENCY IS BETTER THAN ELASTO 245/255, AND IS SUITABLE AS GENERAL PURPOSE RUBBER OIL FORMATS , FOOTWEAR , MOULDED AND EXTRUDED GOODS.

### ELASTO 590

THIS IS A NAPHTHENIC TYPE OIL , SPECIFICALLY DEVELOPED TO MEET THE REQUIREMENT OF THE MAJOR TYRE MANUFACTURER. THE PRODUCT IS USED TO MAKE THE FABRIC-COATING COMPOUND , USED IN COATING NYLON TYRE CORDS OF PASSENGER VEHICLE TYRES.

PETROLEUM OILS ARE USED IN THE MANUFACTURE OF VIRTUALLY ALL RUBBER PRODUCTS SUCH AS TYRES , TUBES, BATTERY CASES, FOOTWEAR, MATS, HOSES ETC. THEY ARE THE KEYSTONES FROM THE RAW MATERIAL STAGE TO THE FINISHED PRODUCTS. RUBBER OILS ARE ADDED TO THE POLYMER THAT MAY OR MAY NOT HAVE BEEN OIL EXTENDED. THEY PERFORM THE FOLLOWING FUNCTIONS:

- FACILITATE MIXING OPERATION.
- REDUCE COMPOUNDING TIME.
- IMPROVE PROCESSIBILITY
- MODIFY PHYSICAL PROPERTIES OF THE FINISHED PRODUCT
- MINIMISE POWER CONSUMPTION.
- REDUCE COST OF FINISHED GOODS.

CONT...

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## RUBBER PROCESS OILS

### ELASTO 710

THIS IS AN AROMATIC TYPE OF OIL AND DUE TO THE PRESENCE OF DOUBLE BONDS IT IS THE LEAST STABLE COMPARED TO ELASTO 245 AND ELASTO 541. IT IS DARK IN COLOUR AND HAS GOOD SOLVENCY MARKETING IT COMPTIABLE WITH MOST RUBBER POLYMERS. IT FINDS EXTENSIVE USE IN THE MANUFACTURE OF AUTOMOBILE TYRES, BELTING, BATTERY CASE ETC. WHERE COLOUR IS NOT AN IMPORTANT FACTOR.

### ELASTO 715

IT IS ALSO AN AROMATIC PROCESS OIL WITH HIGHER VOSCOCITY AND IS SPECIFICALLY DEVELOPED FOR USE AS AN EXTENDER OIL IN THE MANUFACTURE OF STYRENE BUTADIENE RUBBER.

PROPERTIES	ELASTO						
	165	245	255	541	590	710	715
VISCOCITY, CST @40 C	85-107	28-32	18-23	18-23	100-182 @54.5 C	21.25-25 @100 C	26-47 @100
FLASH POINT COC, C	MIN 225	190	220	160	221	218	220
ANILINE POINT, C	107-118	98	96	85	74-96	40-50	31.2-51.6
POUR POINT C MAX	-	0	0	0	0	32	40
MOLECLULAR ANALYSIS ASTM D 2007							
ASPHALTENCES WT %	-	NIL	-	NIL	0.3	<0.1	-
POLAR COMPOUNDS WT %	-	0.6	-	2.3	6.0	9.2	-
AROMATICS WT%	-	20.3	-	46.7	-	66.5	-
SATURATES WT %	-	79.1	-	51.0	35-65	24-3.	-

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# HP Lubricants - Product Data Sheet



## RUST PREVENTIVES

**RUST AND CORROSION ARE FACTORS OF MAJOR ECONOMIC IMPORTANCE COSTING INDUSTRY AND CONSUMERS ABNORMAL EXPENSES. THIS UNWANTED EXPENDITURE CAN BE CURTAILED/ELIMINATED MARKEDLY THROUGH THE USE OF PETROLEUM BASED TEMPORARY RUST AND CORROSION PREVENTIVES.**

**VARIOUS PROTECTIVE MEASURES LIKE ALLOYING, PLATING, PAINTING, ETC ARE USED BY THE ENGINEERING INDUSTRY TO PREVENT METALS FROM THE EFFECTS OF CORROSION. WHILE THE MEASURES INDICATED ABOVE ARE OF A PERMANENT / SEMI PERMANENT NATURE, PETROLEUM BASED RUST PREVENTIES FIND WIDE APPLICATION FOR TEMPORARY CORROSION PROTECTION DURING STORAGE AND TRANSPORTATION.**

**RUSTOP GRADES HAVE BEEN SELECTIVELY FORMULATED FOR VARIOUS APPLICATIONS AND OFFER THE FOLLOWING ADVANTAGES.**

- THESE ARE NON STAINING
- THESE ARE COMPATIBLE WITH LUBRICATING OILS AND HENCE THE SURFACE FILM NEED NOT BE REMOVED.
- THESE ARE EASILY APPLIED BY BRUSH, SPRAY OR SWAB.
- THESE ARE EASILY REMOVABLE BY SOLVENT
- THESE ARE ECONOMICAL

CONT...

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# HP Lubricants - Product Data Sheet



## RUST PREVENTIVES

### OIL FILM TYPE

### RUSTOP 285, RUSTOP 286, RUSTOP 287, RUSTOP S

THESE ARE LUBRICATING OILS CONTAINING SOLUBLE CORROSION INHIBITORS, AND ARE GENERALLY APPLIED BY DIPPING, SPRAYING OR CIRCULATING. THESE SERVE AS LUBRICANTS AS WELL AS TEMPORARY PROTECTIVES. THESE PRODUCTS ARE SUITABLE FOR INTERNAL PROTECTION OF GEAR BOXES, BACK AXLE ASSEMBLIES, OIL AND FUEL PUMPS AND LINES, FUEL AND OIL TANKS, I.C. ENGINES ETC. **RUSTOP S** IS THE MOST SUITABLE GRADE FOR PROTECTION OF COLD ROLLED STEEL COMPONENTS. IT HAS VERY GOOD COVERAGE AND MOST SUITABLE FOR APPLICATION IN HUMID AND SALINE ATMOSPHERE.

PROPERTIES	RUSTOP			
	285	286	287	S
VISCOSITY , cSt @ 40C	25.3-33.2	167-175	253-272	18-24
FLASH POINT,C ,MIN	190	190	216	160
SAPONIFICATION VALUE mg KOH/gm	5.0-7.0	4.4-5.0	4.0-6.0	-
COPPER STRIP CORROSION AT 3Hrs. 100C , (ASTM),MAX	1	1	1	1
COVERAGE , Sq.M/Lt	200	160	100	220

CONT...

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# HP Lubricants - Product Data Sheet



## RUST PREVENTIVES

### GREASY – FILM TYPE

#### RUSTOP 387, RUSTOP 388

THESE PRODUCTS ARE SOFT,WAXY SOLIDS AT ROOM TEMPARATURE. THEY DO NOT CONTAIN ANY SOLVENT,BUT THEIR BASE MATERIALS ARE OIL WITH ADDITIVES LIKE WAX,LANOLIN AND PETROLEUM SULPHONATES. THE RUST PREVENTIVE IS MELTED FOR APPLICATION. THESE TYPES ARE SUITABLE FOR HIGHLY FINISHED AS WELL AD NORMAL MACHINED SURFACES.

THE MATERIAL CAN BE APPLIED TO MANY TYPES OF ASSEMBLIES BY HOT DIPPING. THEY ARE EQUALLY SUITABLE FOR PISTON ASSEMBLIES, OIL SEALS, TRANSMISSIONS AND TIMIN CHAINS, SINGLE ITEMS SUCH AS MILLING CUTTERS, PLAIN BEARING INSERTS AND HIGHLY FINISHED GAUGES ETC.

PROPERTIES	RUSHTOP	
	387	388
APPEARANCE	SEMI SOLID	SEMI SOLID
CONSISTENCY @25 C UNWORKED	245	220
COPPER STRIP CORROSION 3 HR. @100 C (ASTM), MAX	1	1
HUMIDITY CABINET TEST 720 HR . @ 60 C WITH 100% HUMIDITY	PASS	PASS
COVERAGE SQ.M/LT AT 70 – 80 C	15	15
FINGER PRINT NEUTRALISATION TEST	PASS	PASS

CONT...

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# HP Lubricants - Product Data Sheet



## RUST PREVENTIVES

### SOLVENT CUT BACK TYPE

### RUSTOP 173, RUSTOP 184, RUSTOP 274

THESE PRODUCTS ARE MOBILE LIQUIDS CONSISTING OF FILM FORMING INGREDIENTS, RUST INHIBITORS, AND WATER DISPLACING ADDITIVES IN SOLVENT. ON EVAPORATION OF THE SOLVENT, THIN, SOFT, FILM IS OBTAINED.

*RUSTOP 173* AND *RUSTOP 274* CONTAIN WATER – DIAPLACING ADDITIVES, WHICH MEANS THAT ALL TRACES OF MOISTURE ON THE SURFACE OF COMPONENTS BEING COATED ARE DISPLACED BY A PROTECTIVE FILM OF THESE PRODUCTS.

*RUSTOP 184* AND *RUSTOP 173* ARE USED ON A WIDE RANGE OF SINGLE ITEMS: ALSO ON INTERIOR SURFACE WHERE ALBORATE PROTECTION IS UN NECESSARY AND IN CERTAIN CASES FOR THE INTERIUM PROTECTION OF ASSEMBLIES. BECAUSE OF THE NEED FOR EVAPORATION OF THE SOLVENT , IT SHOULD BOT BE USED WHERE SMALL – ORIFICED CAVITIES OCCUR.

### RUST PREVENTIES

*RUSTOP 274* IS A PREMIUM RUST PREVENTIVE AND IS SPECIALLY DISIGNED AS PROTECTIVE FOR ALL TYPES OF BEASRINGS.ITS SUPERIOR CHARACTARSTICS PROTECT THE COMPONENTS FOR EXTENEDED DURATION. IT IS ALSO USED AS A SEALANT FOR PHOSPATIZED COMPONENTS. IT CAN BE USED FOR DUAL PURPOSE FOR INTER PROCESS TREATMENT AS WELL AS FOR APPLICATION ON THE PRECISION PARTS AT THA FINAL PACKAGES STAGE. FOR FINAL APPLICATION THE PRODUCT CAN BE SUED AS SUCH, WHERE AS IT CAN BE DILUTED WITH MINERAL TURPENTINE TO CUT COSTS WHEN USED FOR INERPROCESS TREATMENTS. THE PRODUCT CAN BE APPLIED BY SPRAY OR COLD DIP METHOD.

CONT...

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# HP Lubricants - Product Data Sheet



## RUST PREVENTIVES

### RUSTOP 276

THIS IS A SUPERIOR QUALITY RUST PREVENTIVE BLENDED WITH SOLVENT REFINED BASEOIL AND SPECIAL ADDITIVES TO PROVIDE EXTENDED PROTECTION PERIODS. THE PRODUCT OFFERS BETTER WATER DISPLACEMENT CHARACTERISTICS AND PREVENTS THE METAL SURFACES IN SEVERE SALTY AND HUMID ATMOSPHERES.

IT IS RECOMANDED FOR USE IN ALL THE APPLICATIONS FOR FINAL PACKAGING STAGE OF FINISHED COMPONENTS. IT IS , HOWEVER EQUALLY SUITABLE FOR INTER PROCESS WAITING PERIODS IN THE PLANT .THE PROODUCT CAN BE APPLIED BY SPRAY, SWAB OR COLD DIP METHODS.

PROPERTIES	RUSTOP			
	173	184	274	276
FLASHPOINT,COC C, MIN	32	32	40	40
NON VOLATILE WT %	22	47	-	-
COPPER STROP CORROSION	1	1	1	1
3HR@ 100C , MAX				
WATER DISPLACEMENT	PASS	-	PASS	PASS
FINGER PRINT NEUTRALISATION TEST	-	-	PASS	PASS
COVERAGE, SQ.M/LT IS 1154 - 1957	45	25	75	75
(RE-AFFIRMED IN 1990)	MEETS	MEETS	-	-

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# HP Lubricants - Product Data Sheet



## METAL DRAWING COMPOUNDS

A VERY IMPORTANT SEGMENT OF THE METAL WORKING INDUSTRY IS METAL FORMING, IN THIS PROCESS THE METAL INSTEAD OF BEING CUT OR MACHINED, IS FORCED TO FLOW TO ACQUIRE THE DESIRED DIMENSIONS BY THE USE OF THE SUITABLE MECHANICAL EQUIPMENT. METAL FORMING PROCESS INCLUDES OPERATIONS LIKE PRESSING, STAMPING, DEEP DRAWING, WIRE DRAWING, AND TUBE DRAWING AND FORGING. DURING THESE OPERATIONS CONSIDERABLE AMOUNT OF HEAT AND STRESS ARE DEVELOPED. OUR DRAWMET GRADES ARE TAILOR MADE TO SATISFY THE VARIOUS REQUIREMENTS INCLUDED IN METAL DRAWING/FORGING OPERATIONS.

### **DRAWMET 15**

IT IS A STABLE, NON- STAINING, REFINED PETROLEUM OILS BLENDED WITH FATTY OILS TO IMPROVE WETTING CHARACTERISTICS, IT HAS GOOD COOLING ABILITY AND IS RECOMMENDED FOR USE IN ALUMINIUM WIRE DRAWING OPERATIONS.

### **DRAWMET 22**

IT IS A CREAM – COLOURED PASTE AND MISCIBLE WITH WATER AND MINERAL OIL. IT CONSISTS OF INERT FILLERS THAT IMPART FILM STRENGTH REQUIRED FOR HEAVY DRAWS FOR CARBON/ ALLOY STEEL. IT IS MOST SUITABLE FOR USE AS A COOLANT IN WIRE / TUBE DRAWING OF STEEL AND MAY ALSO BE USED IN PRESSING OPERATIONS.

CONT...

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# HP Lubricants - Product Data Sheet



## METAL DRAWING COMPOUNDS

### DRAWMET 44

IT IS NON STAINING, WATER-SOLUBLE CREAM COLOURED PASTE FOR “DRY ON “ OR EMULSION APPLICATION. IT IS MANUFACTURED WITH SPECIALLY BALANCED MIXTURE OF SOAP AND FAT. IT IS SPECIALLY SUITABLE FOR USE AS AN EFFECTIVE COOLANT IN WIRE DRAWING OPERATIONS. THE RECOMMENDED DILUTION RATIO WITH WATER IS BETWEEN 1 TO 5 PERCENT DEPENDING UPON THE GAUGE OF WIRE TO BE DRAWN. IT IS ALSO FOUND USEFULL IN DEEP DRAWING OF AUTOMOTIVE BODIES AND METAL SHEETS.

### DRAWMET 66

IT IS A DARK COLOURED PRODUCT CONSISTING OF A BLEND OF REFINED HIGH VISCOSITY PETROLEUM OIL AND A SPECIAL ADDITIVE TO WITHSTAND HIGH TEMPERATURES ENCOUNTERED IN THE DIE FORGING OPERATIONS. IT IS EASILY APPLIED BY A SPRAY.

PROPERTIES	DRAWMET			
	15	22	44	66
<b>VISCOSITY CST @40C</b>	295 18-23(@100 C)	-	-	215-240
<b>FLASH POINT, COC C MIN</b>	254	-	-	182
<b>TOTAL FATTY MATTER % WT</b>	-	17-20	53 (Min)	-
<b>STABILITY@10% EMULSION</b>	-	-	STABLE	-
<b>SPONOFICATION VALUE</b>	17-21	-	-	2-4
<b>COPPER STRIP CORROSION 3 HR @ 100C, MAX</b>	1	-	-	1

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# HP Lubricants - Product Data Sheet



## HEAT TRANSFER FLUIDS

### HYTHERM 500

HYTHERM 500 IS A THERMIC FLUID DESIGNED TO COVER A BOARD RANGE OF HEAT TRANSFER APPLICATIONS. THE PRODUCT IS MANUFACTURED USIN SPECIAL REFINING TECHNIQUES AND IS RECOMMENDED IN SERVICE INVOLVING MAXIMUM BULK TEMPARATURE OF 285°C.

- THE PRODUCT IS CHARACTERISED BY THE FOLLOWING.
- EXCELLENT OXIDATION & CHEMICAL STABILITY.
- GOOD HEAT TRANSFER PROPERTIES.
- LOW VOLATILITY, LOW VAPOUR PRESSURE
- NON CORROSIVE & NON TOXIC

IT IS USED FOR MOST CONVENTIONAL OPERATIONS AND FINDA EXTENSIVE APPLICATION IN THE TEXTILE, PHARMACEUTICAL, CHEMICAL AND PROCESSING INDUSTRIES.

CONT...

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# HP Lubricants - Product Data Sheet



## HEAT TRANSFER FLUIDS

### HYTHERM 600

HYTHERM 600 IS A PREMIUM QUALITY HEAT TRANSFER OIL SPECIALLY DEVELOPED FOR HEAT TRANSFER SYSTEM WHERE BULK OPERATING TEMPARTURES GO UPTO 305 C. THIS PRODUCT IS DERIVED FROM FINEST QUALITY PETROLEUM BASE STOCKS AND IS FORTIFIED WITH HIGH PERFORMANCE ADDITIVES TO ENHANCE PERFORMANCE AT HIGHER TEMPERATURES.

THE SAILENT FEATURES OF HYTHERM 600 ARE:

- ABILITY TO WITHSTAND HIGHER OPERATING TEMPRATURES, UP TO 305C
- REDUCED OXIDATION AND THERMAL DEGRADATION, HENCE LONGER LIFE
- MINIMAL FOULING AND DEPOSIT FORMATION ON HEAT TRANSFER SURFACE, HENCE IT OFFERS IMPROVED HEAT TRANSFER.

HYTHERM 600 GIVES EXCELLENT PERFORMANCE IN HIGH TEMPARATURE HEAT TRANSFER SYSTEMS. IT CAN EVEN REPLACE IMPORTED SYNTHETIC PRODUCTS WITH A FEW MINOR SYSTEM MODIFICATION AND OPERATE SATISFACTORILY SUBJECT TO THE ABOVE TEMPARATURE LIMIT. IT IS AN EXCELLENT HEAT TRANSFER FLUID & FINDS A WIDE RANGE OF APLICATIONS IN TEXTILE, PHARMACEUTICAL, CHEMICAL & PROCESSING INDUSTRIES.

CONT...

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# HP Lubricants - Product Data Sheet



## HEAT TRANSFER FLUIDS

PROPERTIES	HYTHERM 500	HYTHERM 600
VISCOCITY @ 40 C	27-35	27-38
FLASH POINT COC, C, MIN	194	194
POWER POINT C MAX	0	0
COPPER STRIP CORROSION 3HR @ 100 C (ASTM) , MAX	1	1
NEUT.NUMBER MG KOH/GM, MAX	0.15	0.15
SPECIFIC HEAT KCAL/KG C AT		
260C	0.730	0.740
280C	0.751	0.760
300C	0.772	0.790
THERMAL CONDUCTIVITY, KCAL/HR-MT C AT		
260C	0.097	0.100
280C	0.096	0.099
300C	0.095	0.097

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# HP Lubricants - Product Data Sheet



## OTHER PRODUCTS

### UNIPRO 36

THIS IS A SPECIALLY DEVELOPED RAYON CONING OIL. IT POSSESSES GOOD LUBRICITY, OXIDATION STABILITY, IS LIGHT COLOURED AND HAS AN ACCEPTABLE ODOUR. THE OIL IS FORTIFIED WITH A CAREFULLY SELECTED EMULSIFIER ENABLING ITS EASY REMOVAL FROM RAYON YARN.

### UNIPRO 37

FORMS A MILKY WHITE EMULSION WITH WATER. THE EMULSION READILY MIXES WITH ALMOST ALLKINDS OF CONVENTIONAL SIZING INGREDIENTS USED IN FINISHING TREATMENT OF TEXTILE FABRICS. TETILE FABRICS TREATED WITH UNIPRO THIS IS A LIGHT COLOURED TEXTILE FINISHING OIL, WHICH 37 ACQUIRE EXCEL“SOFT HANDLE “ PROPERTIES DUE TO THE SOFTENING EFFECTS OF THE PRODUCT.

### UNIPRO 38

WOOL UNLIKE COTTON OR OTHER SYTHETIC FIBERS IS CHARACTERISED BY AN UNUSUAL WAXINESS. THE WOOL IS, THERE FOR DEGREASED TO FACILITATE CARDING AND SPINNING AND IS THUS RENDERED HARSH, BRITTLE, LIGHT AND FLUFFY. UNIPRO 38 HAS GOOD COLOUR STABILITY AND

CONT...

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# HP Lubricants - Product Data Sheet



## OTHER PRODUCTS

IS NORMALLY USED IN THE FORM OF AN EMULSION ON THE WOOL, MAKES THE FIBRES SOFT AND PLIABLE. IT IS ALSO REDUCES GENERATION OF STATIC ELECTRICITY IN THE YARNS AND HAS GOOD SCOURABILITY. NORMALLY 2-5% OF THE PRODUCT EMULSIFIED WITH WATER IN USED, IN SPECIFIC APPLICATION AND CERTAIN CASES NEAT OILS IS USED FOR NEAT APPLICATION.

POPERTIES	UNIPRO		
	36	37	38
<b>EMULSION TEST</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>
<b>LOW TEMPARATURE EMULSION</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>
<b>STABILITY TEST</b>			
<b>VISCOCITY, CST @40C</b>	<b>23</b>	<b>23</b>	<b>23</b>

### HP CONKOTE

THIS IS A WATER – SOLUBLE SEMI- SOLID, GREASE LIKE PRODUCT AND HAS BEEN SPECIALLY FORMULATED FOR USE ON CONVEYOR CHAINS IN BOTTLING PLANTS. THE SPECIAL ADDITIVES INCORPORATED IN THE PRODUCT REDUCE FRICTION, PREVENT CORROSION OF CHAINS AND KEEPS THE DIRT AND OTHER CONTAMINANTS IN SUSPENSION. IT FINDS APPLICATION IN THE LPG, SOFT DRINK. MILK BOTTLING PLANTS ETC..

CONT...

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# HP Lubricants - Product Data Sheet



## OTHER PRODUCTS

### HP SPRAY OIL E

THIS IS AN EMULSIFIABLE OIL HAVING EXCELLENT WETTNG CHARACTERISTICS. IT IS NOT – PHYTOTOXIC AND COMPATIBLE WITH MOST INSECTISIDES. IT IS USED ON APPLE TREES DURING THE DORMANT STAGE TO CONTROL SAN JOSE SCALES, MUSSEL SCALES, BROWN AND OLIVE SCALES AND OTHER PESTS, IT IS RECOMMENDED TO BE USED IN DOSAGE OF 2 TO 3 % EMULSION WITH WATER.

PROPERTIES	HP SPRAY OIL 'E'
APPEARANCE	CLEAR
COLOUR, ASTM	6
DENSITY @15C	0.859
LOW TEMPERATURE EMULSION TEST	PASSES
FFA.%OLEIC, MAX	2.25
FREEZE TEST (LOW TEMP, TABILITY)	PASSES
POUR POINT, C MAX	0
VISCOCITY CST @ 40 C	19

### GLAMOL 40

THIS OIL HAS BEEN DESIGNED TO GIVE BEST PERFORMANCE AS A MOULD RELEASE AGENT IN THE GLASS INDUSTRY. THE PRODUCT DOES NOT LEAVE ANY RESIDUE UNDER THE HIGH OPERATING TEMPEATURES. IT CAN BE APPLIED ON THE MOULD BY SPRAYING OR WITH SWAB.

CONT...

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# HP Lubricants - Product Data Sheet



## OTHER PRODUCTS

### HP SULFOTAN

THIS IS AN EMULSIFIABLE TYPE OF PRODUCT USED FOR APPLICATION ON LIGHT LEATHER IN FAT LIQUORING PROCESS. IT IS INCORPORATED WITH LARGE QUANTITIES OF ACTIVE INGREDIENTS TO SOFTEN LEATHER. IT CAN GIVE STABLE EMULSION EVEN WITH VERY HARD WATER.

### CEMOL 35

THIS IS AN EFFECTIVE MOULD RELEASING AGENT FOR METALIC MOULDS IN CONCRETE CONSTRUCTION WORK. THE PRODUCT IS A CAREFUL BLEND OF RESINS, PLASTICISERS AND OILS IN SELECTED SOLVENT. THE PRODUCT FACILITATES EASE OF APPLICATION AND DISTRUBUTION ON THE MOULD SURFACE. IT PROVIDES FOR EASY RELEASE OF CURED CONCRETE MASS FROM MOULDS WITH OUT STAINING THE SURFACES.

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# HP Lubricants - Product Data Sheet



## LUBRICATION FREQUENCY

PERIODIC LUBRICATION HOLDS WELL IN CASE OF 'ONCE THROUGH' LUBRICATION OR 'TOPPING UP'. IN THE ABSENCE OF THE MACHINERY MANUFACTURERS RECOMANDATIONS ABOUT THE FREQUENCY TABLE THAT IS BASED ON OUR EXPERIENCE WITH OUR LUBRICANTS USED IN VARIOUS TYPES OF MACHINE PARTS. IT MAY SERVE AS A GENERAL GUIDELINE FOR YOUR PLANT.

LUBRICATION POINTS	LUBRICATION FREQUENCY
<b>GREASE NIPPLE, CUP AND AUTOMATIC GREASE LUBRICANTION OPEN GEARS</b>	<b>18 TO 24 MONTHS</b> <b>15 DAY OF 8 HOURS / DAY WORKING.</b>
<b>BEARINGS (PLAIN AND ANTIFRICTION)</b>	<b>24 MONTHS</b>
<b>ENCLOSED GEARS (SPUR, WORM BEVEL &amp; HELICAL)</b>	<b>3000 HOURS</b>
<b>RING OIL BEARINGS</b>	<b>1500 HOURS</b>
<b>COUPLING (GEARED)</b>	<b>1500 TO 2000 HOURS</b>
<b>HYDRAULIC SYSTEM</b>	<b>9 MONTHS OF 8 HOURS/DAY WORKING</b>
<b>COMPRESSORS</b>	<b>6 MONTHS OF 8 HOURS/DAY WORKING</b>

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<b>CONTACT NUMBERS &amp; ADDRESSES</b>					
<b>S.No</b>	<b>Reginal Office</b>	<b>Contact Person</b>	<b>Office</b>	<b>Residence</b>	<b>Address</b>
1	<b>Ahmedabad RO – Direct Sales</b>	Ch/Sr .Regional Manager	079-27911757	079-27910943	HPCL, Petroleum House,Behind Memnagar,Fire Station,Navrangpura, PB 4032,Ahmedabad 380009
		Marketing Manager	079-27910660	079-27911174	
2	<b>Bhopal RO - Direct Sales</b>	Ch/Sr .Regional Manager	0755-2583839	0755-25274022	HPCL, Gautam Nagar,Govindpura,Bhopal-462023
		Marketing Manager	0755-5274020	-	
3	<b>Mumbai RO-Direct Sales</b>	Ch/Sr .Regional Manager	022-26402714	022-26520844	HPCL, WZTC,¼, Jn of SV Rd & Turner Rd,Bandra (West),Mumbai 400050
		Marketing Manager	022-26410176	022-25547554	
4	<b>Nagpur RO -Direct Sales</b>	Ch/Sr .Regional Manager	0712-2546159	0712-2529510	HPCL, Oriental Building,S.V. Patel Marg, Post Box No.8,Nagpur 440001
		Marketing Manager	0712-2548411	-	
5	<b>Pune RO- Direct Sales</b>	Ch/Sr .Regional Manager	020-26124524	020-26855359	HPCL,1, Raja Bahadur Motilal Rd,PB No.90,PB No.90
		Marketing Manager	020-56017429	020-56232036	
6	<b>Surat RO Direct Sales</b>	Ch/Sr .Regional Manager	0261-2861797	0261-2256081	HPCL, Hazira POL Depot,P.O. Ichhapore,Surat 394510 (Gujarat)
		Marketing Manager	0261-2860320	0261-2769352	
7	<b>Chandigarh RO Direct Sales</b>	Ch/Sr .Regional Manager	0172-2543457		HPCL, Tel Bhawan,Plot No.6-A, Madhya Marg,Sector 19-B,Chandigarh 160019
		Marketing Manager	0172-2541357	0172-2666598	
8	<b>Delhi RO Direct Sales</b>	Ch/Sr .Regional Manager	011-22010619	011-25826152	HPCL, 7th Floor,Core II, North Tower,SCOPE Minar, Laxmi Nagar,New Delhi 110092
		Marketing Manager	011-22408503	-	
9	<b>Jaipur RO Direct Sales</b>	Ch/Sr .Regional Manager	0141-2742516	0141-2752134	HPCL, Tel Bhawan,Sahkar Marg, Jyoti Nagar,Jaipur 302005
		Marketing Manager	0141-2742487	0141-2751123	
10	<b>Lucknow RO Direct Sales</b>	Ch/Sr .Regional Manager	0522-2308870	0522-2207423	HPCL, Plot No.1,Nehru Enclave,Gomti Nagar,Lucknow-226010
		Marketing Manager	0522-2308868	-	
11	<b>Bhubaneswar RO Direct Sales</b>	Ch/Sr .Regional Manager	0674-2546040	-	HPCL, 5th Floor, Alok Bharati Bldg,Shaheed Nagar,Bhubaneswar 751007
		Marketing Manager	0674-3093294	0674-3093290	
12	<b>Kolkata RO Direct Sales</b>	Ch/Sr .Regional Manager	033-22829527	033-24164831	HPCL, Industry House,7th & 8th Floor,10, Camac Street,Kolkata - 700017
		Marketing Manager	033-22827456	033-30966991	
13	<b>Tatanagar RO Direct Sales</b>	Ch/Sr .Regional Manager	0657- 2270380	-	HPCL, Station Road, Burma Mines,Near Star Talkies,Near Star Talkies
		Marketing Manager	0657-2271776	0657-2284350	
14	<b>Visakh RO Direct Sales</b>	Ch/Sr .Regional Manager	0891-2567414	0891-2563584	HPCL, Petronilayam, Opp:AU 'IN' Gate,China Waltair,Visakhapatnam 530003
		Marketing Manager	0891-2525409	-	
15	<b>Bangalore RO Direct Sales</b>	Ch/Sr .Regional Manager	080-28530544	-	HPCL, 77, Old Madras Road,K.R. Puram,Doorvaninagar PO,Bangalore - 560016
		Marketing Manager	080-28530543	080-25660142	
16	<b>Chennai RO Direct Sales</b>	Ch/Sr .Regional Manager	044-28584901	-	HPCL, Thalamuthu Natarajan Bldg.,PB No:3045, Egmore,8,Gandhi Irwin Road,Chennai 600008.
		Marketing Manager	044-28412668	-	
17	<b>Cochin RO Direct Sales</b>	Ch/Sr .Regional Manager	0484-2314543	0484-2333886	HPCL, Karshaka Road,PB No: 2425,Kadavanthra P.O.,Ernakulam – 682016, Cochin
		Marketing Manager	0484-2314427	-	
18	<b>Secunderabad RO Direct Sales</b>	Ch/Sr .Regional Manager	040-27713892	040-27703316	HPCL, 130/1, Sarojini Devi Street,Next to St Patrick's School,Secunderabad 500003
		Marketing Manager	040-27716896	040-27766539	

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