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

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FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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.

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FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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

PRESS TO RETURN

FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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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FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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 CHARACTERSTICS, @ 82 °C, 20 MINS, MAX	40 – 37-3	40-37-3	40-37-3

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FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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

PRESS TO RETURN

FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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.

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FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

HP Lubricants - Product Data Sheet

HYDRAULIC & CIRCULATING OILS

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

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.

ENKLOP 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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FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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

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FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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.

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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
VISCOSITY, CST@40°C	61.2-74.8	90.2-110	135-165	19.8-24.2	41.5-50.6	61.2-74.8
FOAMING CHARACTERISTIC, SEQ I	← 150/NIL →			← 150/NIL →		
RUST TEST	← PASSES →			← PASSES →		

PRESS TO RETURN

FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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

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FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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
VISCOSITY,CST. @ 40°C	29-35	42-50	62-74	90-110	135-165	200-240	290-350
VISCOSITY,INDEX MIN	95	95	95	95	95	95	95
FLASH POINT, (COC), °C, MIN	175	195	195	205	210	220	220
POUR POINT, °C, MAX	(-) 9	(-) 9	(-) 9	(-) 9	(-) 3	(-) 3	(-) 3
FZG,FAILURE LOAD STAGE, MIN	9	9	9	9	9	9	9

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FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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
VISCOSITY,CST.@ 40°C	29-35	42-50	55-60
VISCOSITY,INDEX MIN	100	98	95
FLASH POINT, (COC), °C, MIN	200	200	204
POUR POINT, °C, MAX	(-) 18	(-) 15	(-) 12
FZG,FLS, MIN	10	10	10

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FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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
VISCOSITY,CST. @ 40°C	29-35	42-50	62-74	90-110	135-165	200-240	290-350
VISCOSITY,INDEX MIN	95	95	95	95	95	95	95
FLASH POINT, (COC), °C, MIN	175	195	195	205	210	220	220
POUR POINT, °C, MAX	(-) 9	(-) 9	(-) 9	(-) 9	(-) 3	(-) 3	(-) 3
FZG,FAILURE LOAD STAGE, MIN	9	9	9	9	9	9	9

PRESS TO RETURN

FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

HP Lubricants - Product Data Sheet

MACINE 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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FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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. THESES 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, PAIN 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 FORF SPRAY LUBRICATION SYSTEMS REQUIRING EXTREME PRESSURE PROPERTIES.

CONT…

FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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

FOR FURTHER DETAILS PRESS HERE

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FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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, TEXTOOL, TEXMACO ETC.

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

IT MEETS IS : 493 (PART I)- 1993

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FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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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FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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
VISCOSITY,CST.@40°C	29-34	62-68	90-110	200-230	30-35
VISCOSITY,INDEX MIN	90	90	90	90	90
FLASH POINT, COC), °C, MIN	68	188	192	210	204
POUR POINT, °C, MAX	0	0	0	0	0

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FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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 AND 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.

CONT…

HP Lubricants - Product Data Sheet

STEAM CYLINDER OILS

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

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FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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.

CONT…

FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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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FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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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FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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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FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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
VISCOSITY,CST.@40°C	62.1-67.5	200-300	450-650	950-1200	1400-1600 @40C	1166-1590 @50C	2332-3180 @50C
FLASH POINT, (COC), °C, MIN	240	230	230	230	260	-	-

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FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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.

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FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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 INGINES, CYLINDERS AND VALVE CHESTS OF STEAM ENGINES AND IMPELLERS OF TURBINE ENGINES.

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FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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

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FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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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FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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	ENKLO 150	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…

FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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
	OVER 50	- DO -	ENKLO 320	PARTHAN EP220
300 TO1000	UNDER 20	CIRCULATION	ENKLO 68	PARTHAN EP68
		SPLASH	ENKLO 150	PARTHAN EP150
	20 TO 75	CIRCULATION	ENKLO 150	PARTHAN EP150
		SPLASH	ENKLO 220	PARTHAN EP150
	OVER 75	CIRCULATION	ENKLO 220	PARTHAN EP220
		SPLASH	ENKLO 320	PARTHAN EP320
UNDER 300	UNDER 30	CIRCULATION	ENKLO 320	PARTHAN EP220
		SPLASH	ENKLO 320	PARTHAN EP320
	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…

FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

HP Lubricants - Product Data Sheet

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

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

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.

PRESS TO RETURN

FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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 LTHON 3 MEET IS: 7623-1985 GRADE 2 AND 3 TYPE RESPECTIVELY. LLITHON EP 1 & LITHON EP 2 MEET IS : 7623 :1985 GRADE 2 EP TYPE RESPECTIVELY. LLITHON 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…

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
COLOUR	YELLOWISH				BLACK	GREEN		
WORK PENETRATION @25 DEG C	265/295	220/250	310/340	265/295	265/295	310/340	265/295	230/250
DROP POINT DEG-C	180	180	180	180	180	250	260	260
TYPE OF SOAP	LITHIUM	LITHIUM	LITHIUM	LITHIUM	LITHIUM	LITHIUM COMPLEX		

PRESS TO RETURN

FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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…

HP Lubricants - Product Data Sheet

CALCIUM SOAP GREASES

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

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

PRESS TO RETURN

FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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

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

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

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

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

PRESS TO RETURN

FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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…

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…

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	
VERY SOFT WATER	LESS THAN 15 PPM (ONE GRAIN PER GALLON)
SOFT WATER	15 - 50 PPM (1 TO 3 GRAIN PER GALLON)
MEDIUM HARD WATER	50 - 100 PPM (3 TO 6 GRAIN PER GALLON)
HARD WATER	100 - 200 PPM (6 TO 12 GRAIN PER GALLON)
VERY HARD WATER	OVER 200 PPM (ONE 12 GRAINS PER GALLON)

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

CONT…

FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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 STRENGH USED FOR MACHINING RANGES FROM 5 TO 10 PERCENT DEPENDING ON THE SEVERITY OF MACHINEING.

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.

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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…

HP Lubricants - Product Data Sheet

METAL CUTTING FLUIDS

PROPERTIES	KOOLKUT				
	40	60	EP 66	70	80
EMULSION TEST	MILKY EMULSION	TRANSLUCENT EMULSION	SLIGHT YELLOWISH EMULSION	TRANSPARENT YELLOW FLUORESCENT SOLUTION	MILKY EMULSION
LOW TEMPERATURE EMULLSION STABILITY	PASS	PASS	PASS	PASS	PASS
FOUR BALL EP VALUE OK LOAD (KG), MIN	- -	- -	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
COPPER STRIP CORROSION 3HR @ 100°C, MAX	1
CAST IRON CORROSION TEST 1:40 IN DISTILLED WATER	PASS
FOUR BALL TEST OK LOAD KG., MIN	180

CONT…

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 BENFITS 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 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…

HP Lubricants - Product Data Sheet

METAL CUTTING FLUIDS

TRIMOFIN 15

IT IS A VERY LIGHT COLOURED OIL WITH LOW VISCOSITY ANS 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…

FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

HP Lubricants - Product Data Sheet

METAL CUTTING FLUIDS

PROPERTIES	TRIMOFIN			
	14	15	16	18
VISCOSITY, CST@ 40^{O} 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…

FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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…

HP Lubricants - Product Data Sheet

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, IF 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
VISCOSITY, CST@ 40^{O} C	4.0-6.5 (@ 100^{O} C)	20-30	27-42	31-42	23-36	8-17
FLASH POINT, COC, °C, MIN	110	160	160	160	160	145
SAPONIFICATION NUMBER MG KOH/GM	-	9-10.5	9.0	-	-	-
CONTIANS : INACTIVE SULFUR	X	X	√	√	√	√
ACTIVE SULFUR	X	X	X	X	X	X
CHLORINE	√	√	X	X	√	√

CONT..

FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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 SLFUR, 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 HOBBING, 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…

HP Lubricants - Product Data Sheet

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^{O} 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…

FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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 ADDITVE 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^{O} 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^{O} C , MAX	1

PRESS TO RETURN

FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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 SERVERE-ROLLING CONDITIONS OF OPERATION. IN ADDITION IT HAS EXCELLENT DISPERSANCY FOR UNIFORM ROLL PASS LUBRICATION ALONG WITH GOOD EMULSIBILTIY, 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^{O} 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…

FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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…

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 IN 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…

HP Lubricants - Product Data Sheet

METAL ROLLING OILS

PROPERTIES	ROLMET			
VISCOSITY, CST@ 40^{O} 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	-

PRESS TO RETURN

FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

HP Lubricants - Product Data Sheet

QUENCHING OILS

THE TERM QUENCHING NORMALLY REFERS TO THE CONTROLLED COOLING OF STEEL COMPONENTS IN A FLUID TO GIVE SPECIFIED PROPETIES. THE HARDNESS AND THE OTHER PHYSICAL PROPERTIES OBTAINED DEPEND UP ON THE COMPOSITION OF THE STEEL, THE DIMENSION OF THE COMPONENT, THE TIME AND TEMPARATURE 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 CAB 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 PRPORTIES**
- **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 RECOMANDED 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 CYANDIED PARTS. METAQUENCH 40 IS SUITABLE IN SITUATIONS WHERE LOWER QUENCHING SPEED IS DESIRED. THESE MEET THE REQUIREMENT OF IS:2664-1980(RE-AFFRMEND 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…

HP Lubricants - Product Data Sheet

QUENCHING OILS

METAQUENCH 44

IT IS ALSO AN ADDITIVE TYPE OF QUENCHING OIL WITH BALANCED PROPORATION OG HIGH VISCOCITY INDEX BASE OILS. THE OPTIMUM VISCOCITY WITH SUPERIOR ADDITIVE CHEMISTRY PROVIDING A FASTER COOLING RATES ON COOLING RATES IN COLD QUENCHING OPERATIONS. IT IS RECOMANDED FOR ALL THE OPERATIONS WERE HIGHER SURFACE HARDNESS IS REQUIRED. THE OIL GIVES MINIMAL QUENCH DISTROTIONS. IT MEETS THE REQUIREMENTS OF IS:2664-1980,(RE-AFFIRMED IN 19870 ADDITIVE TYPE.

PROPERTIES	METAQUENCH				
	39	40	42	43	44
VISCOCITY.CST @ 40^{0}C	23-33	58-73	20-33	20-33	20-33
VISCOCITY INDEX MIN	90	90	90	90	90
FLASH POINT, COC ^{0}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…

FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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 QUUENCHING 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		

PRESS TO RETURN

FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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 , NAPTHENICS 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 PARAFFI NIC 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…

HP Lubricants - Product Data Sheet

RUBBER PROCESS OILS

ELASTO 541

THIS IS A NAPTHENIC 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 NAPTHENIC 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…

HP Lubricants - Product Data Sheet

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 MANFACTURE 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 MANFACTURE 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.	-

PRESS TO RETURN

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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 COMPATIABLE 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…

FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

HP Lubricants - Product Data Sheet

RUST PREVENTIVES

OIL FILM TYPE

RUSTOP 285, RUSTOP 286, RUSTOP 287, RUSTOP S

THESE ARE LUBRICATING OILS CONTANING 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.

PROPETIES	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…

FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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…

FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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 INTEROIR SURFACE WHERE ALOBORATE PROTECTION IS UN NECCESSSARY 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…

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 CHARACTERESTICS 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 PROOUDUCT 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	-	-

PRESS TO RETURN

FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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 FORMIN PROCESS INCLUDES OPERATIONS LIKE PRESSING, STAMPING, DEEP DRAWING, WIRE DRAWING, AND TUBE DRAWING AND FORGING. DURING THESE OPERATIONS CONSIDERABLE AMOUNT OF HEAT AND STRESS AND 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 CHARACTERSTICS, IT HAS GOOD COOLING ABILITY AND IS RECOMANDED 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 STRENTH REQUIRED FOE HAVY DRAWS FOR CARBON/ ALLOY STEEL. IT IS MOST SUITABLE FOR USE AS A COOLENT IN WIRE / TUBE DRAWING OF STEEL AND MAY ALSO BE USED IN PRESSING OPERATIONS.

CONT…

FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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 WOITH WATER IS BETWEEN I 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
VISCOSITY CST @40C	295 18-23(@100 C)	-	-	215-240
FLASH POINT, COC C MIN	254	-	-	182
TOTAL FATTY MATTER % WT	-	17-20	53 (Min)	-
STABILITY@10% EMULSION	-	-	STABLE	-
SPONOFICATION VALUE	17-21	-	-	2-4
COPPER STRIP CORROSION 3 HR @ 100C, MAX	1	-	-	1

PRESS TO RETURN

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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^{o}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…

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…

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

PRESS TO RETURN

FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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 CONVENTIAL 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…

FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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
EMULSION TEST	PASS	PASS	PASS
LOW TEMPARATURE EMULSION	PASS	PASS	PASS
STABILITY TEST			
VISCOCITY, CST @40C	23	23	23

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…

FOR FURTHER INFORMATION PLEASE CONTACT OUR NEAREST REGIONAL OFFICE

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 COMPATIABLE 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 TEMPARATURE 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 QUANTITES 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 FACILITIES 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.

PRESS TO RETURN

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

PRESS TO RETURN

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