## Advancing Productivity<sup>™</sup> for the plastics industry

Below are some of the product features and applications:

	Mobil DTE 10 Excel	Mobil DTE 20 Ultra	Nuto H	Mobil Hydraulic AW**		
Viscosity range (ISO)	15, 22, 32, 46, 68, 100, 150	22, 32, 46, 68, 100	32, 46, 68, 100*	32, 46, 68		
Features/Potential benefits						
Wide temperature performance	***	***	••	••		
Hydraulic efficiency	***	••	<b>&amp; &amp;</b>	••		
Long oil/filter life	***	***	<b>&amp; &amp;</b>	••		
Low-temperature properties	***	**	••	••		
Demulsibility	***	***	***	***		
Anti-wear performance	***	***	***	••		
Recommended applications						
For use in systems	<ul> <li>Requiring a wide temperature operating window</li> <li>Using high-pressure/high-output pumps in which enhanced hydraulic efficiency is desired</li> <li>Using close-tolerance servo-valves and benefitting from long service life</li> </ul>	<ul> <li>Using high-pressure/ high-output pumps</li> <li>Using close-tolerance servo-valves and CNC machines</li> </ul>	<ul> <li>Requiring mild antiwear properties</li> <li>With moderate temperature and pressure requirements</li> </ul>	Recommended for standard hydraulic application		

<sup>\*</sup> This product is only available in South Africa.

\*\* This product is only available in selected countries across Europe. For clarification please reach out to your respective ExxonMobil contact or Authorized ExxonMobil distributor.





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Health and Safety
Based on available information, these products are not expected to produce adverse effects on health when used for the applications referred to above and the recommendations provided in the Material Safety Data Sheets (MSDSs) are followed. MSDSs are available upon request through your sales contact office or via the Internet. These products should not be used for purposes other than the applications referred to above. If disposing of used product, take care to protect the environment.



# Solutions and services for the plastics industry injecting productivity into plastics

Energy lives here



## Moulding business enhancements

Whether you produce plastic components for packaging, automotive, construction, consumer electronics or any other industry, your customers have high expectations of you. It is a given today that you need to provide large uniform quantities at a comparatively low cost. To achieve this, it places exacting demands on your machines. That's why we have developed a vast suite of high-performing lubricants and services you can rely on, all designed to lower your total cost of operation.

### How can lubricants help enhance your productivity?

Symptom	Root cause	Lubrication issue	Operating solution
Erratic operation and imprecise dimension of final product	Servo valve malfunctioning and sticking	Lower quality oils are degraded in severe operating conditions and form sludge and varnish	Oxidation can be held in check by using high quality base oils combined with superior additive technology
Too frequent oil change is required	Short service life of lubricant	Balanced performance (in service oxidation performance, additive retention) needed to extend the service life of the oil	Reducing the risk by using the right lubricant with balanced formulation
Premature pump failure	Pump wear or breakage, rust and corrosion of bronze parts	Anti-wear/R&O performance needed to protect pump from wear and rust	Choosing a lubricant with high anti-wear, Keep Clean performance and ability to resist rust and corrosion
Filter clogging	Combination of poor balanced oil and moisture/contaminants	Requirement for cleanliness and contamination control performance	Using a lubricant with excellent filterability
Water contamination	Oil leakage in the cooler or condensed water	Periodic maintenance	Using a shear-stable lubricant with high water separation property, compatible with a wide range of seals

You can find more information on common issues and hydraulics troubleshooting on mobil.com/industrial

From packaging and construction to transportation, electronics, consumer products and more, plastics play an indispensable role in today's world. And as a plastics components manufacturer, keeping your machinery running efficiently plays a pivotal role in your profitability. If there is an equipment breakdown, your production will slow down, impacting the operational effectiveness that is critical to staying competitive.

To lower your total cost of operations you need oils with:



#### Keep clean performance

To prevent deposit formation in servo valves, increasing system reliability and avoiding unscheduled downtime. Which means they last for a long time. And the longer the machine life, the lower your operating costs.



#### Outstanding contamination control

To maintain filterability even in the presence of small amount of external contaminants so you can keep your system running clean and extend your equipment component life.



#### Controlled demulsibility

The controlled demulsibility permits the oils to work well in systems contaminated with small amounts of water. It protects systems where small quantities of moisture are present and readily separates larger quantities of water.



#### **Exceptional wear protection**

To prevent wear in critical system components thus enhancing their performance and life, helping avoid maintenance cost and lost production.



#### Longer life

No matter how oxidatively stable an oil is, if it can't control contamination and keep the system clean, its oil life will be compromised. Oils formulated with the end application in mind, providing outstanding contamination control, exceptional wear protection and cleanliness that lasts, will give you outstanding oil durability and protection.



#### **Excellent rust protection**

Oils need to perform well even in the presence of water and particulate contamination, providing anti-rust and anti-wear protection, while still maintaining good filterability.



#### High viscosity index and high shear stability

In hydraulic systems, lubricants are generally exposed to compression and shear stresses. To overcome these issues, it is important to use a lubricant with high shear stability and high viscosity index.

## For excellent overall equipment efficiency and reduced costs

Thoroughly tested before they are commercialized, Mobil Industrial Lubricants are supported by numerous equipment builder approvals. Our exceptional product lineup for plastics manufacturing includes\*:

Application	Product	Potential Benefits
Industrial and mobile equipment hydraulic systems	Mobil DTE 10 Excel™ Series  Mobil 13 Mare 13 Mare 13 Mare 14 Mare 15 Mare 16 Mare 16 Mare 16 Mare 16 Mare 17 Mare 18	<ul> <li>Up to 3x oil drain intervals and hence less oil consumption**</li> <li>High VI Zinc free formulation delivering up to 6% hydraulic efficiency*</li> <li>Wear protection over a wide temperature range helps reduce maintenance</li> </ul>
	Mobil DTE 20 Ultra Series  Mobil DTE 20 Ultra Se	<ul> <li>Up to 2x oil drain intervals and hence less oil consumption**</li> <li>Outstanding deposit control and wear protection</li> <li>Performance exceeding leading industry standards</li> </ul>
Rotary screw and vane air compressors	Mobil SHC <sup>™</sup> Rarus Series	<ul> <li>Cleanliness and extended compressor oil life</li> <li>Up to 3 times longer oil drain interval<sup>‡</sup></li> <li>Wide temperature performance and effective lubrication at high temperatures</li> <li>Resistance to rusting and corrosion, good anti-wear properties</li> </ul>
Gearboxes, bearings and plastic calenders	Mobil SHC <sup>™</sup> 600 Series	<ul> <li>Equipment protection at high and low temperatures</li> <li>Ultimate wear protection for high load bearings and gears</li> <li>Trouble-free operation and long filter life</li> <li>Extended oil drain intervals</li> </ul>
Electric motor ball and rotor bearings	Mobil Polyrex <sup>™</sup> EM	<ul> <li>Low oil release that contributes to long-term lubrication</li> <li>Low bearing noise capability</li> <li>High-temperature performance</li> <li>Formulated with advanced polyurea thickener</li> </ul>

For more information about Mobil Industrial Lubricants and services, please contact your nearest ExxonMobil representative or visit mobil.com/industrial.

<sup>\*</sup> Since equipment and operating conditions vary, please refer to equipment builder manual for preferred lubrication recommendations.

<sup>\*\*</sup> Mobil DTE 10 Excel Series oils have demonstrated up to 3 times longer oil drain intervals versus similar competitive oils in standard test rigs.

<sup>\*</sup> Energy efficiency relates solely to the fluid performance when compared with ExxonMobil's standard hydraulic fluids. The technology used allows up to 6 percent increase in hydraulic pump efficiency compared with Mobil DTE 20 Series when tested in standard hydraulic applications. The energy efficiency claim for this product is based on test results on the use of the fluid conducted in accordance with applicable industry standards and protocols. Efficiency improvements will vary based on operating conditions and applications.

<sup>\*\*</sup> Mobil DTE 20 Ultra Series oils have demonstrated up to 2 times longer oil drain intervals versus similar competitive oils (ISO VG 46 with a viscosity index around 100 and a zinc-based anti-wear system - meeting at least ISO 11158 (L-HM) and/or DIN 51542-2 (HLP type) requirements) in demanding Mobil Hydraulic Fluid Durability (MHFD) testing.

<sup>&</sup>lt;sup>‡</sup> 3X oil life claim relates solely to the fluid performance when compared to leading synthetic compressor oil of the same viscosity grade. Technology used allows up to 3X air compressor oil life compared to the reference when tested in a rotary screw compressor under controlled conditions. Air compressor oil life improvements will vary based on operating conditions and application.