Hydraulic Fluids

Description:

Reviews the development of modern hydraulic fluids
Discusses the application and selection of hydraulic fluids through the investigation of their physical and chemical properties related to the operational requirements.
Offers guidance on suitable maintenance routines

Since the first use of water as a hydraulic medium in the late 18th century, hydraulics has become an indispensable discipline of engineering science. Enormous technological advances have been made in the intervening years, but this has not been reflected in the available literature on the numerous fluids involved.

Based on 40 years of experience with Shell in Norway, this reference text brings together a comprehensive coverage of the behaviour and selection of hydraulic fluids. It includes a full analysis of recent advances in synthetic oils - media which will inevitably become more dominant as natural products become more scarce.

Hydraulic Fluids provides an overview that both students and professionals involved with hydraulics, whether concerned with the mechanical components or system design or selection and maintenance of the fluids themselves, will refer to again and again as it provides relevant information on all the major hydraulic fluids in a single volume.

Contents:

Preface
Glosary
(1) Introduction
Basic principles of hydraulics
Energy considerations
(2) Types of hydraulic media
Historical
The ideal hydraulic media
(3) Mineral base oils
Composition of mineral oils
Chemical nature
(4) Additives
(5) Synthetic oils
Types of synthetic oil
Synthetic hydrocarbons
Polyethers
Organic esters
Phosphate esters
Silicones
Fluoroethers
(6) Rheology
Viscosity
Low temperature flow properties
Temperature dependence of viscosity
Shear stability
Pressure dependence of viscosity
(7) Compressibility
Secant bulk modulus
Tangent bulk modulus
Effect of air on bulk modulus
Low bulk moduli fluids
Density
Thermal properties
(8) Anti-wear properties
(9) Oxidation stability
(10) Demulsibility
(11) Aeration problems
Diagnosis and treatment of aeration problems
(12) Filterability
Filterability test procedures
(13) Specifications
Requirements
(14) Hydraulic fluids for military and aerospace applications
Aircraft and aerospace
Combat vehicles and artillery
Naval vessels
(15) Selection of a suitable hydraulic fluid
(16) Test methods for hydraulic media
Physical-chemical properties
mechanical testing
(17) Contamination
What impurities are involved?
(18) Deterioration and maintenance
Flushing * (19) Analysis of used hydraulic oil
Interpretation of the test results
Condition monitoring and oil change * (20) Fire-resistant fluids
Conversion of existing systems to fire-resistant fluids
Maintenance of fire-resistant fluids * (21) Hydraulic brake fluids * (22) Future perspectives * (23) Health and safety
Ingestion
Skin contact
Eye contact
Inhalation
Materials safety data sheet * (24) Hydraulic fluids and the environment
What is biodegradability
Determination of biodegradability
Biodegradable hydraulic media
Bibliography
Appendix 1
Appendix 2
Index.

Order by Fax - using the form below
Order by Post - print the order form below and send to

Research and Markets,
Guinness Centre,
Taylors Lane,
Dublin 8,
Ireland.
Fax Order Form
To place an order via fax simply print this form, fill in the information below and fax the completed form to 646-607-1907 (from USA) or +353-1-481-1716 (from Rest of World). If you have any questions please visit http://www.researchandmarkets.com/contact/

Order Information
Please verify that the product information is correct.

Product Name: Hydraulic Fluids
Web Address: http://www.researchandmarkets.com/reports/1766289/
Office Code: SC6IIOQC

Product Format
Please select the product format and quantity you require:

<table>
<thead>
<tr>
<th>Quantity</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hard Copy (Hard Back):</td>
<td>USD 286 + USD 29 Shipping/Handling</td>
</tr>
</tbody>
</table>

* Shipping/Handling is only charged once per order.

Contact Information
Please enter all the information below in BLOCK CAPITALS

Title: Mr [ ] Mrs [ ] Dr [ ] Miss [ ] Ms [ ] Prof [ ]
First Name: __________________________ Last Name: __________________________
Email Address: * __________________________
Job Title: __________________________
Organisation: __________________________
Address: __________________________
City: __________________________
Postal / Zip Code: __________________________
Country: __________________________
Phone Number: __________________________
Fax Number: __________________________

* Please refrain from using free email accounts when ordering (e.g. Yahoo, Hotmail, AOL)
Payment Information

Please indicate the payment method you would like to use by selecting the appropriate box.

☐ Pay by credit card: You will receive an email with a link to a secure webpage to enter your credit card details.

☐ Pay by check: Please post the check, accompanied by this form, to:
Research and Markets,
Guinness Center,
Taylors Lane,
Dublin 8,
Ireland.

☐ Pay by wire transfer: Please transfer funds to:
Account number 833 130 83
Sort code 98-53-30
Swift code ULSBIE2D
IBAN number IE78ULSB98533083313083
Bank Address Ulster Bank,
27-35 Main Street,
Blackrock,
Co. Dublin,
Ireland.

If you have a Marketing Code please enter it below:

Marketing Code: ____________________________

Please note that by ordering from Research and Markets you are agreeing to our Terms and Conditions at http://www.researchandmarkets.com/info/terms.asp

Please fax this form to:
(646) 607-1907 or (646) 964-6609 - From USA
+353-1-481-1716 or +353-1-653-1571 - From Rest of World