

Determination Of Wax Content In Oils Application Note 12

Paraffin waxes make up the majority of commercial waxes. Waxes are characterized by the carbon number, hardness, crystal shape, composition, and molecular weight. These characteristics determine the condition of separating the wax. Paraffin wax is widely used in different industries such as ink, paper, cosmetics, ceramics using powder injection molding and energy storage as phase change materials. Consumption of wax products has increased in the world; especially for food, pharmaceutical products, cosmetics, as well as specialty products. The increase of profitability of wax production will lie in the improvement of blending and modification techniques for macro and micro-crystalline waxes used as the base materials.

Bitumens, Bituminous products, Binding agents, Chemical analysis and testing, Determination of content, Paraffin wax, Waxes, Distillation methods of analysis, Distillation, Construction materials, Petroleum products Oil Spill Environmental Forensics Case Studies includes 34 chapters that serve to present various aspects of environmental forensics in relation to “real-world oil spill case studies from around the globe. Authors representing academic, government, and private researcher groups from 14 countries bring a diverse and global perspective to this volume. Oil Spill Environmental Forensics Case Studies addresses releases of natural gas/methane, automotive gasoline and other petroleum

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fuels, lubricants, vegetable oils, paraffin waxes, bitumen, manufactured gas plant residues, urban runoff, and, of course, crude oil, the latter ranging from light Bakken shale oil to heavy Canadian oil sands oil. New challenges surrounding forensic investigations of stray gas in the shallow subsurface, volatiles in air, dissolved chemicals in water (including passive samplers), and biological tissues associated with oil spills are included, as are the effects and long-term oil weathering, long-term monitoring in urbanized and non-urbanized environments, fate and transport, forensic historical research, new analytical and chemical data processing and interpretation methods. Presents cases in each chapter on the application of specific oil spill environmental forensic techniques Features chapters written by international experts from both academia and industry Includes relevant concepts and theories elucidated for each theme

This document provides the comprehensive list of Chinese Industry Standards - Category: SY; SY/T; SYT. All English-translated Chinese codes are available at: www.codeofchina.com

For food scientists, high-performance liquid chromatography (HPLC) is a powerful tool for product composition testing and assuring product quality. Since the last edition of this volume was published, great strides have been made in HPLC analysis techniques- with particular attention given to miniaturization, automatization, and green chemistry. The Bitumens, Bituminous products, Binding agents, Petroleum products, Chemical analysis and testing,

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Determination of content, Paraffin wax, Waxes, Extraction methods of analysis

Refineries must not only adapt to evolving environmental regulations for cleaner product specifications and processing, but also find ways to meet the increasing demand for petroleum products, particularly for liquid fuels and petrochemical feedstocks. The Chemistry and Technology of Petroleum, Fourth Edition offers a 21st century perspective

As global consumption of fossil fuels such as oil increases, previously abundant sources have become depleted or plagued with obstructions. Asphaltene deposition is one of such obstructions which can significantly decrease the rate of oil production. This book offers concise yet thorough coverage of the complex problem of asphaltene precipitation and deposition in oil production. It covers fundamentals of chemistry, stabilization theories and mechanistic approaches of asphaltene behavior at high temperature and pressure. Asphaltene Deposition: Fundamentals, Prediction, Prevention, and Remediation explains techniques for experimental determination of asphaltene precipitation and deposition and different modeling tools available to forecast the occurrence and magnitude of asphaltene deposition in a given oil field. It discusses strategies for mitigation of asphaltene deposition using chemical inhibition and corresponding challenges, best practices for asphaltene remediation, current research, and case studies.

Vegetable fats, Vegetable oils, Fats, Food products, Food testing, Chemical analysis and testing,

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Determination of content, Waxes, Gas chromatography, Column chromatography

"Crude oil composition dictates how much wax can be dissolved at certain pressure and temperature conditions. Wax Appearance Temperature (WAT), wax solubility and, density are directly related to composition. The objective of this study was to investigate a connection between wax formation and the composition of Alaska North Slope oils. Gas chromatography was used for compositional analysis of oil up to hydrocarbon C60. Wax content experiments extracted paraffins by precipitation in solvent chilled to -30°C to determine total wax in oil sample. Several samples with API gravity in the range of $30^{\circ}\sim 40^{\circ}$ had similar wax content values as heavier oils with API gravity in the range between 20° and 30° . An observed difference in the oil samples was a larger fraction of C5 to C9 components in the lighter oils that enabled more wax to be dissolved. Intermediate oil components in the range of (C5 to C9) are observed to have greater ability to dissolve paraffins than higher hydrocarbons (greater than C10)"--Leaf iii.

This document provides the comprehensive list of Chinese National Standards and Industry Standards (Total 17,000 standards).

Wax Deposition Experimental Characterizations, Theoretical Modeling, and Field Practices CRC Press
Wax Deposition: Experimental Characterizations, Theoretical Modeling, and Field Practices covers the entire spectrum of knowledge on wax deposition. The book delivers a detailed description of the thermodynamic and transport theories for wax deposition

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modeling as well as a comprehensive review of laboratory testing for the establishment of appropriate field control strategies. Offering valuable insight from academic research and the flow assurance industry, this balanced text: Discusses the background of wax deposition, including the cause of the phenomenon, the magnitude of the problem, and its impact on petroleum production Introduces laboratory techniques and theoretical models to measure and predict key parameters of wax precipitation, such as the wax appearance temperature and the wax precipitation curve Explains how to conduct and interpret laboratory experiments to benchmark different wax deposition models, to better understand wax deposition behaviors, and to predict wax deposit growth for the field Presents various models for wax deposition, analyzing the advantages and disadvantages of each and evaluating the differences between the assumptions used Provides numerous examples of how field management strategies for wax deposition can be established based on laboratory testing and modeling work Wax Deposition: Experimental Characterizations, Theoretical Modeling, and Field aids flow assurance engineers in identifying the severity and controlling the problem of wax deposition. The book also shows students and researchers how fundamental principles of thermodynamics, heat, and mass transfer can be applied to solve a problem common to the petroleum industry. Functional Pavements is a collection of papers presented at the 6th Chinese-European Workshop (CEW) on Functional Pavement Design (Nanjing, China, October 18-21, 2020). The

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focus of the CEW series is on field tests, laboratory test methods and advanced analysis techniques, and cover analysis, material development and production, experimental characterization, design and construction of pavements. The main areas covered by the book include: • Asphalt binders for flexible pavements • Asphalt mixture evaluation and performance • Pavement construction and maintenance • Pavement Surface Properties and Vehicle Interaction • Cementitious materials for rigid pavements • Pavement geotechnics and environment Functional Pavements aims at contributing to the establishment of a new generation of pavement design methodologies in which rational mechanics principles, advanced constitutive models and advanced material characterization techniques shall constitute the backbone of the design process. The book will be much of interest to professionals, academics and practitioners in pavement engineering and related disciplines as it should assist them in providing improved road pavement infrastructure to their stakeholders.

This book provides technical data and information on unconventional- and inactive energy sources. After reviewing the current global energy situation, individual chapters discuss fossil fuel sources and renewable energy sources. It focuses on future energy systems and explores renewable energy scenarios including water energy and power, biofuels and algae energy. It also provides essential information on energy from inactive sources, energy from waste materials and the optimization of energy systems.

The Handbook of Olive Oil presents an up-to-date view of all aspects of olive oil. It is written from an inter-disciplinary point of view and will be of use in research and development as well as in routine laboratory and process operations. This second edition includes new chapters devoted to genetic studies and agronomic aspects of new orchards and cultivars,

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which, in combination with the most recent biochemical studies and technological developments, explain the unique chemical composition of olive oil. The analytical aspects of the first edition are now described in six new chapters focused on the chemical compounds responsible for olive oil traceability and sensory perceptions (odor, color, and taste) utilizing chromatographic, spectroscopic, and in-tandem techniques. Nutritional and sensory aspects are the basis for the current success of virgin olive oil among consumers, and this new edition re-analyzes in two new chapters the role of lipids, in general, and olive oil, in particular, in nutrition and health. In addition, the methodologies developed for determining sensory quality, olive oil oxidation, and deep-frying are extensively described and discussed. The role of consumers in olive oil studies of marketing and acceptability is covered in a new chapter. This second edition has not ignored the fact that the popularity of olive oil has made it a preferred target for fraudsters. Deliberate mislabeling or mixtures containing less expensive edible oils are topics described in depth in two chapters devoted to traceability and adulteration. There is also a new chapter focused on the olive refining process, which is a relevant activity in the olive oil world, and another chapter displaying tables of chemical and sensory information from olive oils produced all over the world. The book is written at two levels: the main level is structured as a tutorial on the practical aspects of olive oil. A second, more methodological level, is intended for specialists in the different sciences that contribute to olive oil studies (biochemistry, chemistry, physics, statistics etc). This edition also details changes that are needed in different disciplines in order to overcome current problems and challenges.

Fouling in Refineries is an important and ongoing problem that directly affects energy efficiency resulting in increased costs, production losses, and even unit shutdown, requiring

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costly expenditures to clean up equipment and return capacity to positive levels. This text addresses this common challenge for the hydrocarbon processing community within each unit of the refinery. As refineries today face a greater challenge of accepting harder to process heavier crudes and the ongoing flow of the lighter shale oil feedstocks, resulting in bigger challenges to balance product stability within their process equipment, this text seeks to inform all relative refinery personnel on how to monitor fouling, characterize the deposits, and follow all available treatments. With basic modeling and chemistry of fouling and each unit covered, users will learn how to operate at maximum production rates and elongate the efficiency of their refinery's capacity. Presents an understanding of the breakdown of fouling per refinery unit, including distillation and coking units Provides all the factors, crude types, and refining blends that cause fouling, especially the unconventional feedstocks and high acid crudes used today Helps users develop an analysis-based treatment and control strategy that empowers them to operate refinery equipment at a level that prevents fouling from occurring

A compilation of 58 carefully selected, topical articles from the Ullmann's Encyclopedia of Industrial Chemistry, this three-volume handbook provides a wealth of information on economically important basic foodstuffs, raw materials, additives, and processed foods, including a section on animal feed. It brings together the chemical and physical characteristics, production processes and production figures, main uses, toxicology and safety information in one single resource. More than 40 % of the content has been added or updated since publication of the 7th edition of the Encyclopedia in 2011 and is available here in print for the first time. The result is a "best of Ullmann's", bringing the vast knowledge to the desks of professionals in the food and feed

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industries.

Quality assessment and the need for authentication are important features of the food and personal care products industries. This volume provides an overview of the methods relevant to analysis and authentication of oils and fats. All the major oils and fats are included. Chapter authors are drawn from the academic and industrial sectors. The volume is directed at chemists and technologists working in the food industry, the pharmaceutical industry and in oils and fats processing. It will also be of interest to analytical chemists and quality assurance personnel.

Olive oil, Vegetable oils, Food products, Food testing, Chemical analysis and testing, Determination of content, Waxes, Column chromatography, Gas chromatography
The book “Intelligent System and Computing” reports the theory, mathematical models, algorithms, design methods, and applications of intelligent systems and computing. It covers various disciplines including computer and information science, electrical and computer engineering, natural sciences, economics, and neuroscience. The broad-ranging discussion covers the key disciplines in computational science and artificial intelligence as well as advances in neuromorphic computing, deep learning, the Internet of Things, computer vision, and many others. This volume provides both academics and professionals with a comprehensive overview of the field and presents areas for future research.

Bitumens, Bituminous products, Binding agents, Petroleum products, Chemical analysis and testing, Determination of content, Paraffin wax, Waxes, Distillation methods of analysis, Distillation

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A comprehensive reference which draws together and systematises the information available on the occurrence and determination of organic substances in all types of non-saline and saline natural and treated waters. It provides a comprehensive description of organic compounds in all natural and treated water types. The book includes a series of table

Bearing Capacity of Roads, Railways and Airfields includes the contributions to the 10th International Conference on the Bearing Capacity of Roads, Railways and Airfields (BCRRA 2017, 28-30 June 2017, Athens, Greece). The papers cover aspects related to materials, laboratory testing, design, construction, maintenance and management systems of transport infrastructure, and focus on roads, railways and airfields. Additional aspects that concern new materials and characterization, alternative rehabilitation techniques, technological advances as well as pavement and railway track substructure sustainability are included. The contributions discuss new concepts and innovative solutions, and are concentrated but not limited on the following topics: · Unbound aggregate materials and soil properties · Bound materials characteristics, mechanical properties and testing · Effect of traffic loading · In-situ measurements techniques and monitoring · Structural evaluation · Pavement serviceability condition · Rehabilitation and maintenance issues · Geophysical assessment · Stabilization and reinforcement · Performance modeling · Environmental challenges · Life cycle assessment and sustainability Bearing Capacity of Roads, Railways and Airfields is essential reading for

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academics and professionals involved or interested in transport infrastructure systems, in particular roads, railways and airfields.

The book introduces gas explosion technology (GET) and its applications in biomass refineries. In this book an overview of GET is provided, the mechanisms are thoroughly discussed. The chapters also cover the latest processes and equipments of GET, including equipment selection, parameter determination and engineering scaling-up. Last but not least the applications of GET are introduced in details. It is an excellent reference and guidance for scientists engaging in the research of biomass and biotechnology. Professor Hongzhang Chen is the Vice Director and Supervisor of the State Key Laboratory of Biochemical Engineering at the Institute of Process Engineering of the Chinese Academy of Sciences.

Handbook of Chromatography: Analysis of Lipids provides a valuable review of state-of-the-art applications of chromatographic techniques (TLC, GC, HPLC) and other analytical techniques. Much of this volume is devoted to applications of HPLC (including supercritical fluid chromatography) in the analysis of lipids such as fatty acids, oxygenated fatty acids, enantiomeric acyl- and alkylglycerols, and lipoproteins. The handbook also provides extensive coverage of applications of combinations of various chromatographic techniques used in the analysis of ozonides, anacardic acids, glycerophospholipids, products of lipolysis, artifacts and contaminants in edible fats, acylated proteins, non-caloric lipids, lipophilic vitamins, acyl-Coenzyme A

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thioesters, dolichols, mycolic acids, technical fats and fat products, and liposomes. Handbook of Chromatography: Analysis of Lipids will be a useful reference for oil chemists, biochemists, fat science technologists, and other scientists involved in lipid research.

A staple food for thousands of years for the inhabitants of the Mediterranean region, olive oil is now becoming popular among consumers all over the world. Olive oil differs from other vegetable oils because it is used in its natural form and has unique flavor and other characteristics. More and more research suggests its healthful benefits including reduced risk of coronary heart disease. Olive Oil is a compact and readable text on the most important aspects of chemistry, technology, quality, analysis and biological importance of olive oil. The topics selected have been developing rapidly in recent years, and will provide the reader with a background to address more specific problems that may arise in the future. Readers can expect more contributors and chapters in the 2nd edition, as well as a glossary.

Includes the chemistry and properties of olive oils

Contains details on the healthful properties of olive oil
minor components
Extensive informaton on the analysis and authentication of olive oils
Features an overview on the economics of olive oil in the world market

Paraffin Products

Petroleum refining involves refining crude petroleum as well as producing raw materials for the petrochemical industry.

This book covers current refinery processes and process-types that are likely to come on-stream during the next three to five decades. The book includes (1) comparisons of

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conventional feedstocks with heavy oil, tar sand bitumen, and bio-feedstocks; (2) properties and refinability of the various feedstocks; (3) thermal processes versus hydroprocesses; and (4) the influence of refining on the environment.

This is Volume 5 of a Handbook that has been well-received by the thermal analysis and calorimetry community. All chapters in all five volumes are written by international experts in the subject. The fifth volume covers recent advances in techniques and applications that complement the earlier volumes. The chapters refer wherever possible to earlier volumes, but each is complete in itself. The latest recommendations on Nomenclature are also included.

Amongst the important new techniques that are covered are micro-thermal analysis, pulsed thermal analysis, fast-scanning calorimetry and the use of quartz-crystal microbalances. There are detailed reviews of heating - stage spectroscopy, the range of electrical techniques available, applications in rheology, catalysis and the study of nanoparticles. The development and application of isoconversional methods of kinetic analysis are described and there are comprehensive chapters on the many facets of thermochemistry and of measuring thermophysical properties. Applications to inorganic and coordination chemistry are reviewed, as are the latest applications in medical and dental sciences, including the importance of polymorphism. The volume concludes with a review of the use and importance of thermal analysis and calorimetry in quality control. * Updates and complements previous volumes * Internationally recognized experts as authors * Each chapter complete in itself

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