

# Standard Specification for Aviation Turbine Fuel Containing Synthesized Hydrocarbons<sup>1</sup>

This standard is issued under the fixed designation D7566; the number immediately following the designation indicates the year of original adoption or, in the case of revisions, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript symbol (<sup>2</sup>) indicates an editorial change since the last revision or reapproval.

This standard has been approved for use by agencies of the U.S. Department of Defense.

## 1. Scope<sup>2</sup>

1.1 This specification covers the manufacture of aviation turbine fuel that consists of conventional and synthetic blending components.

1.2 This specification applies only at the point of batch origination, as follows:

1.2.1 Aviation turbine fuel manufactured, certified, and released to all the requirements of Table 1 of this specification (D7566), meets the requirements of Specification **D1655** and shall be regarded as Specification **D1655** turbine fuel. Duplicate testing is not necessary; the same data may be used for both D7566 and **D1655** compliance. Once the fuel is released to this specification (D7566) the unique requirements of this specification are no longer applicable; any recertification shall be done in accordance with Table 1 of Specification **D1655**.

1.2.2 Field blending of synthesized paraffinic kerosene (SPK) blendstocks, as described in **Annex A1** (FT SPK) or **Annex A2** (HEFA SPK) with **D1655** fuel (which may or may not have originated as D7566 fuel) shall be considered batch origination in which case all of the requirements of Table 1 of this specification (D7566) apply and shall be evaluated. Short form conformance test programs commonly used to ensure transportation quality are not sufficient. The fuel shall be regarded as **D1655** turbine fuel after certification and release as described in 1.2.1.

1.2.3 Once a fuel is redesignated as **D1655** aviation turbine fuel, it can be handled in the same fashion as the equivalent refined **D1655** aviation turbine fuel.

1.3 This specification defines specific types of aviation turbine fuel that contain synthesized hydrocarbons for civil use in the operation and certification of aircraft and describes fuels found satisfactory for the operation of aircraft and engines. The specification is intended to be used as a standard in describing the quality of aviation turbine fuels and synthetic blending

components at the place of manufacture but can be used to describe the quality of aviation turbine fuels for contractual transfer at all points in the distribution system.

1.4 This specification does not define the quality assurance testing and procedures necessary to ensure that fuel in the distribution system continues to comply with this specification after batch certification. Such procedures are defined elsewhere, for example in ICAO 9977, EI/JG Standard 1530, JG 1, JG 2, API 1543, API 1595, and AEA-103.

1.5 This specification does not include all fuels satisfactory for aviation turbine engines. Certain equipment or conditions of use may permit a wider, or require a narrower, range of characteristics than is shown by this specification.

1.6 While aviation turbine fuels defined by Table 1 of this specification can be used in applications other than aviation turbine engines, requirements for such other applications have not been considered in the development of this specification.

1.7 Synthetic blending components, synthetic fuels, and blends of synthetic fuels with conventional petroleum-derived fuels in this specification have been evaluated and approved in accordance with the principles established in Practice **D4054**.

1.8 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.9 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

## 2. Referenced Documents

2.1 *ASTM Standards:*<sup>3</sup>

**D56** Test Method for Flash Point by Tag Closed Cup Tester

**D86** Test Method for Distillation of Petroleum Products at

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee D02 on Petroleum Products, Liquid Fuels, and Lubricants and is the direct responsibility of Subcommittee D02.30.06 on Emerging Turbine Fuels.

Current edition approved May 15, 2014. Published May 2014. Originally approved in 2009. Last previous edition approved in 2013 as D7566 – 13. DOI: 10.1520/D7566-14.

<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For a partial list of ASTM Standards volume information, refer to the standard's Document Summary page on the ASTM website.

<sup>3</sup> A Summary of Changes section appears at the end of this standard.

# Astm D7566 14

**Robert C. Brown**



#### **Astm D7566 14:**

Battery Electric Vehicles, E-Fuel Powered Hybrids and Fuel Cell Powertrains Hardikk Valera, Avinash Kumar Agarwal, 2025-08-30 This book explores advanced powertrain technologies aimed at reducing greenhouse gas GHG emissions and accelerating the transition to sustainable mobility As regulatory bodies push for alternatives to internal combustion engines ICEs battery electric vehicles BEVs hybrid electric vehicles HEVs plug in hybrid electric vehicles PHEVs and fuel cell based powertrains are emerging as viable solutions However challenges such as battery safety thermal management and fuel cell efficiency require further research and innovation This book presents state of the art developments in lithium ion batteries fuel cell modeling battery thermal management systems BTMSs and electro catalyst advancements for fuel cell transportation It also discusses the technological environmental and regulatory challenges associated with electrified powertrains By providing insights into recent advancements and future prospects this book serves as a valuable resource for researchers engineers and policymakers striving to develop efficient and sustainable vehicle technologies

**Handbook of Biofuels Production** Rafael Luque, Carol Sze Ki Lin, Karen Wilson, Chenyu Du, 2022-12-05 Handbook of Biofuels Production Processes and Technologies Third Edition provides a comprehensive and systematic reference on a range of biomass conversion processes and technologies In response to the global increase in the use of biofuels as substitute transportation fuels advanced chemical biochemical and thermochemical biofuels production routes are quickly being developed Substantial additions for this new edition include increased coverage of emerging feedstocks including microalgae more emphasis on by product valorization for biofuels production additional chapters on emerging biofuel production methods and co production of biofuels and bioproducts The book s editorial team is strengthened by the addition of an extra member and a number of new contributors have been invited to work with authors from the first and second edition to revise existing chapters with each offering fresh perspectives This book is an essential reference for professional engineers in the biofuel industry as well as researchers in academia from post graduate level and up Provides systematic and detailed coverage of the processes and technologies being used in the production of first second and third generation biofuels Evaluates the latest advanced chemical biochemical and thermochemical technologies processes and production routes Takes an integrated biorefinery approach guiding readers through the production of biofuels and their co products in integrated biorefineries Includes videos of industrial production facilities and equipment showing how complex processes and reaction apparatus work in a lab and industry setting

**Thermochemical Processing of Biomass** Robert C. Brown, 2019-03-15 A comprehensive examination of the large number of possible pathways for converting biomass into fuels and power through thermochemical processes Bringing together a widely scattered body of information into a single volume this book provides complete coverage of the many ways that thermochemical processes are used to transform biomass into fuels chemicals and power Fully revised and updated this new edition highlights the substantial progress and recent developments that have been made in this rapidly

growing field since publication of the first edition and incorporates up to date information in each chapter Thermochemical Processing of Biomass Conversion into Fuels Chemicals and Power 2nd Edition incorporates two new chapters covering condensed phased reactions of thermal deconstruction of biomass and life cycle analysis of thermochemical processing systems It offers a new introductory chapter that provides a more comprehensive overview of thermochemical technologies The book also features fresh perspectives from new authors covering such evolving areas as solvent liquefaction and hybrid processing Other chapters cover combustion gasification fast pyrolysis upgrading of syngas and bio oil to liquid transportation fuels and the economics of thermochemically producing fuels and power and more Features contributions by a distinguished group of European and American researchers offering a broad and unified description of thermochemical processing options for biomass Combines an overview of the current status of thermochemical biomass conversion as well as engineering aspects to appeal to the broadest audience Edited by one of Biofuels Digest s Top 100 People in bioenergy for six consecutive years Thermochemical Processing of Biomass Conversion into Fuels Chemicals and Power 2nd Edition will appeal to all academic researchers process chemists and engineers working in the field of biomass conversion to fuels and chemicals It is also an excellent book for graduate and advanced undergraduate students studying biomass biofuels renewable resources and energy and power generation

#### **Biofuels Production and Processing Technology M.R.**

Riazi,David Chiaramonti,2017-10-10 The importance of biofuels in greening the transport sector in the future is unquestionable given the limited available fossil energy resources the environmental issues associated to the utilization of fossil fuels and the increasing attention to security of supply This comprehensive reference presents the latest technology in all aspects of biofuels production processing properties raw materials and related economic and environmental aspects Presenting the application of methods and technology with minimum math and theory it compiles a wide range of topics not usually covered in one single book It discusses development of new catalysts reactors controllers simulators online analyzers and waste minimization as well as design and operational aspects of processing units and financial and economic aspects The book rounds out by describing properties specifications and quality of various biofuel products and new advances and trends towards future technology 28th European Symposium on Computer Aided Process Engineering Stefan Radl,Jiří Jaromír

Klemeš,Petar Sabevarbanov,Thomas Wallek,2018-06-26 28th European Symposium on Computer Aided Process Engineering Volume 43 contains the papers presented at the 28th European Society of Computer Aided Process Engineering ESCAPE event held in Graz Austria June 10 13 2018 It is a valuable resource for chemical engineers chemical process engineers researchers in industry and academia students and consultants for chemical industries Presents findings and discussions from the 28th European Society of Computer Aided Process Engineering ESCAPE event *Nanomaterials as a*

*Catalyst for Biofuel Production* Vivek Dave,Arindam Kuila,2025-02-28 This contributed volume addresses several environmental problems using nanoparticles nanomaterials for renewable energy and biofuel production It presents

nanomaterials as catalysts that can enable better selectivity yield and quality in renewable energy and biofuel production The rapid expansion of industries and human population has resulted in a significant increase in the generation of waste and environmental pollution posing a significant threat to the environment and human health People are looking for safer and more eco friendly fuels to meet energy demand and preserve the world for future generations Renewable energy and biofuels are alternative techniques that reduce fossil fuel consumption The advancement in the field of nanotechnology has led to the development of nanocomposites nanomaterials which are composed of nanoscale particles and polymers Their application in the environment has shown great potential in addressing environmental issues such as pollution control and waste management Nanocomposites are advanced materials with unique properties such as improved mechanical strength thermal stability and flame resistance making them attractive for a wide range of applications including environmental applications Nanomaterials show great potential for sustainable biofuel production with commercial feasibility Nanotechnology based various conversion routes effectively convert waste biomass into value added biofuels such as syngas biodiesel and HVO This book discusses the green synthesis of nanocomposites nanomaterials for biofuel production and renewable energy Additionally it covers techno economic analysis of bioremediation using green synthesized nanoparticles nanomaterials This book will be helpful for researchers engineers and scientists working in the areas of environmental biotechnology materials science nanotechnology environmental science and engineering Renewable Fuels for Sustainable Mobility Pravesh Chandra Shukla,Giacomo Belgiorno,Gabriele Di Blasio,Avinash Kumar Agarwal,2023-05-06 This volume discusses the use of renewable fuels for clean transportation and its applications on internal combustion engines The contents focus on the key aspects of fuel production processes and its impact on various segments of the transportation sector and for sustainable mobility Several kinds of fuels are assessed such as biofuels alcohols and hydrogen and their effects on the combustion process are characterized by application This volume will be of use to those working in academia and industry as well as energy experts and policy makers **Maritime Decarbonization** Mikael Lind,Wolfgang Lehmacher,Robert Ward,2023-10-20 This volume analyses maritime decarbonization from various perspectives It contains unique approaches and tools in four areas scenarios value chains enablers and partnerships Decarbonization has become a very important focus in the maritime industry Anyone that delves into the topic quickly appreciates its breadth and complexity Minimizing greenhouse gases GHG emissions in maritime practices at large and doing it swiftly is far from simple The Paris 2015 climate goals and the IMO ambitions may be the industry s guiding lights But is this enough Probably not At the managerial level a paradigm shift is needed from a fixed mindset that is calling for compensation to a growth mindset that seeks to capture the benefits of decarbonization This will require a structured approach in the form of practical frameworks and clear recommendations In this book 75 scholars and industry and subject matter experts have joined forces to explore different scenarios value chain designs decarbonization enablers and partnership models to develop frameworks and

recommendations around how to effectively work and make progress The books offers a valuable mix of theory practical tools and real life cases

**Biokerosene** Martin Kaltschmitt,Ulf Neuling,2017-08-09 This book provides a detailed overview of aspects related to the overall provision chain for biokerosene as part of the global civil aviation business Starting with a review of the current market situation for aviation fuels and airplanes and their demands it then presents in depth descriptions of classical and especially new types of non edible biomass feedstock suitable for biokerosene provision Subsequent chapters discuss those fuel provision processes that are already available and those still under development based on various biomass feedstock materials and present e g an overview of the current state of the art in the production of a liquid biomass based fuel fulfilling the specifications for kerosene Further given the growing interest of the aviation industry and airlines in biofuels for aviation the experiences of an air carrier are presented In closing the book provides a market outlook for biokerosene Addressing a broad range of aspects related to the pros and cons of biokerosene as a renewable fuel for aviation the book offers a unique resource

**Biofuels and Bioenergy** John Love,John A. Bryant,2017-02-28 With increased public and scientific attention driven by factors such as oil price spikes the need for increased energy security and concerns over greenhouse gas emissions from fossil fuels the production of fuels by biological systems is becoming increasingly important as the world seeks to move towards renewable sustainable energy sources Biofuels and Bioenergy presents a broad wide ranging and informative treatment of biofuels The book covers historical economic industrial sociological and ecological environmental perspectives as well as dealing with all the major scientific issues associated with this important topic With contributions from a range of leading experts covering key aspects including Conventional biofuels Basic biology biochemistry and chemistry of different types and classes of biofuel Current research in synthetic biology and GM in the development and exploitation of new biofuel sources Aspects relating to ecology and land use including the fuel v food dilemma Sustainability of different types of biofuel Ethical aspects of biofuel production Biofuels and Bioenergy provides students and researchers in biology chemistry biochemistry and chemical engineering with an accessible review of this increasingly important subject

**Innovations in Sustainable Energy and Cleaner Environment** Ashwani K. Gupta,Ashoke De,Suresh K. Aggarwal,Abhijit Kushari,Akshai Runchal,2019-07-19 This book covers the state of the art advances in several areas of energy combustion power propulsion and environment focusing on the use of conventional and alternative fuels It presents novel developments in the areas of biofuels and value added products from various feedstock materials along with thermal management emission control and environmental issues from energy conversion Written by internationally renowned experts the chapters in this volume cover the latest fundamental and applied research innovations on cleaner energy utilization for a wide range of devices extending from micro scale energy conversion to hypersonic propulsion using hydrocarbon fuels The book will be useful as a ready reference for managers and practicing and research engineers as well as graduate students and research organizations and institutions

**Powerfuels** Nils

Bullerdiek,Ulf Neuling,Martin Kaltschmitt,2024-12-05 Powerfuels are the subject of intense and often contentious current discussions within industry research politics as well as the overall society These discussions primarily revolve around the practical and technical feasibility of power to X processes and applications their economic viability the respective environmental benefits the contribution to climate protection as well as the social acceptability Thus the primary aim of this book is to provide a comprehensive overview of various aspects diverse considerations and different perspectives regarding the future role and utilization of power to X pathways on a global scale This encompasses the challenge of sourcing necessary educts feedstock options their conversion into different products and product groups exploring the possibilities of using these electricity based fuels hydrocarbons in various markets and establishing suitable framework conditions for viable and sustainable markets in the years to come These objectives are achieved through a collection of papers contributed by experts actively engaged in various fields related to power to X

Industrial Biorenewables Pablo Domínguez de María,2016-04-22 INDUSTRIAL BIORENEWABLES A Practical Viewpoint This unique text provides an in depth industrial view in its discussion of industrial biorenewables industries report on real cases of biorenewables dealing with economics the motivation of implementing industrial biorenewable based processes and suggestions for further improvement and research Includes industrial perspectives by scientists working on biorenewable technology in industry with a clear commercial focus Spans basic research to commercialization of processes and everything in between Provides key information for academic groups working in the area by covering the way industrial scientists tackle problems Showcases patented technologies across diverse industries shares the motivation of implementing industrial biorenewable based processes and suggests options for further improvement and research Serves as a guide for industries and academic groups providing crucial information for the setup of future biobased industrial concepts Industrial Biorenewables provides a state of the art perspective offering a unique viewpoint from which a range of industries report on real cases of biorenewables demonstrate their technologies share the motivation of implementing a certain industrial biorenewable based processes and suggest options for further improvement and research With an in depth industrial viewpoint the book serves as a key guide for industries and academic groups providing crucial information for the setup of future biobased industrial concepts

**Roadmap for Sustainable Aviation Biofuels for Brazil** Luís Augusto Barbosa Cortez,2014-11-06 The aviation industry is committed to reducing its environmental impact and has established the ambitious goals to reach carbon neutral growth by 2020 and to reduce carbon dioxide emissions by 50% from 2005 levels by 2050 Currently the aviation industry generates approximately 2% of man caused carbon dioxide emissions it is a small but growing share that is projected to reach 3% by 2030 BOEING and EMBRAER as leading aviation companies committed to a more sustainable future have joined efforts to support initiatives to lower greenhouse gas GHG emissions derived from air transportation These emissions represent an important global concern in the 21st century and the growing aviation industry will need to find ways to reduce its contribution particularly in

substituting fossil fuels by sustainable biofuel Airlines are doing their part as well Globally they have created the Sustainable Aviation Fuel Users Group SAFUG an organization focused on accelerating the development and commercialization of sustainable aviation biofuels and representing about 30% of commercial jet fuel demand Brazil is internationally recognized for its long experience of using biomass for energy purposes beginning with wood sugarcane ethanol and biodiesel Modern bioenergy represents around 30% of the Brazilian energy matrix and has a long track record reconciling biofuel production food security and rural development Much of what Brazil has done in the bioenergy area was accomplished by long term policies and investment in research In this context BOEING EMBRAER and FAPESP initiated this project to conduct a national assessment of the technological economic and sustainability challenges and opportunities associated with the development and commercialization of sustainable biofuel for aviation in Brazil UNICAMP was selected for the coordination of this study with the charter to lead a highly qualified multi disciplinary research team

*Production Processes of Renewable Aviation Fuel* Claudia Gutierrez-Antonio, Araceli Guadalupe Romero-Izquierdo, Fernando Israel Gomez Castro, Salvador Hernández, 2021-01-22

*Production Processes of Renewable Aviation Fuel* Present Technologies and Future Trends presents the available production processes for renewable aviation fuel including the application of intensification and energy integration strategies Despite biofuels have gained a lot of interest in the last years renewable aviation fuel is one of the less studied In the last ten years there has been an incredible growth in the number of patents and articles related with its production processes Several transformation pathways have been proposed and new ones have been outlined The book contains the main information about the production processes of renewable aviation fuel considering international standards available technologies and recent scientific contributions It also outlines the motivation for the development of renewable aviation fuel and its main processing pathways from the different renewable raw materials In addition the application of intensification and energy integration strategies is presented along with the identified future trends in this area Includes the motivation for the development of renewable aviation fuel and applicable standards Describes the processing pathways from biomass to produce renewable aviation fuel Presents the application of intensification and energy integration strategies for the production of renewable aviation fuel The future trends in the production processes of renewable aviation fuel are discussed

Proceedings of the Cardiff University Engineering Research Conference 2023 Emiliano Spezi, Michaela Bray, 2024-05-01

The Conference was established for the first time in 2023 as part of a programme of activities to sustain research culture environment and dissemination activities at the School of Engineering Cardiff University Cardiff United Kingdom The conference served as a platform to celebrate advancements in various engineering domains researched at our School and to explore and discuss further advancements in the diverse fields that define contemporary engineering The structure of the conference programme reflected the multidimensional nature of our research and was built around the priority research areas for the school

1 Sustainable Energy stands as a testament to our



commitment to a greener more efficient future We aim to advance energy technology and play a key role in addressing the increasing demand for sustainable and low carbon technologies while reducing environmental impact and ensuring a sustainable environment Our work helps to drive forward net zero solutions for achieving the government carbon targets 2 Advanced Manufacturing represents cutting edge research into materials systems and transformative technologies to transform engineering and economic performance in the transport energy generation and manufacturing industries Our research in this area focuses on developing smart materials and structures and sustainable manufacturing processes that help create a sustainable and greener economy 3 Civil Infrastructure takes centre stage as we improve the sustainability and resilience of infrastructure across the UK and the globe We work on developing sustainable and resilient total lifecycle solutions across a wide range of domains including construction structures energy geo environmental and water infrastructure systems From creating new nano scale smart materials to macro scale urban interventions 4 Compound Semiconductors and Applications represents the cutting edge of electronics a critical driver of progress in the digital age We explore the latest developments in compound semiconductor materials advanced characterisation techniques quantum optics and novel circuit design methodologies and their diverse applications We anticipate breakthroughs that will power the next generation of computing communication and sensing technologies 5 Engineering for Health forms a cornerstone of our discussions recognizing the pivotal role technology plays in revolutionizing healthcare We are applying the latest research in medical engineering to push the boundaries in areas where innovation has the potential to transform patient care

Commemorative Issue to Celebrate the Life and Work of Prof. Roger W.H. Sargent Rafiqul Gani ,Jan Cameron,2020-12-29

This book celebrates the life work and influence of Professor Roger W H Sargent of Imperial College London It does so through a range of original contributions that span the wide academic and industry interests of Professor Sargent Roger Sargent passed away in late 2018 but his legacy lives on through his enormous academic tree which traces to the early 1960s That huge body of work has also had significant impacts on industrial practices Roger was regarded as the father of Process Systems Engineering PSE This area of Chemical Engineering continues to influence the modelling design control optimization and integrated performance of industrial and related processes This book highlights some of those impacts and the ongoing importance of PSE in helping to solve some of the grand challenges of our time **Sustainable Aviation**

**Technology and Operations** Roberto Sabatini,Alessandro Gardi,2023-09-12 Sustainable Aviation Technology and Operations Comprehensively covers research and development initiatives to enhance the environmental sustainability of the aviation sector Sustainable Aviation Technology and Operations provides a comprehensive and timely outlook of recent research advances in aeronautics and air transport with emphasis on both long term sustainable development goals and current achievements This book discusses some of the most promising advances in aircraft technologies air traffic management and systems engineering methodologies for sustainable aviation The topics covered include propulsion

aerodynamics avionics structures materials airspace management biofuels and sustainable lifecycle management The physical processes associated with various aircraft emissions including air pollutants noise and contrails are presented to support the development of computational models for aircraft design flight path optimization and environmental impact assessment Relevant advances in systems engineering and lifecycle management processes are also covered bridging some of the existing gaps between academic research and industry best practices A collection of research case studies complements the book highlighting opportunities for a timely uptake of the most promising technologies towards a more efficient and environmentally sustainable aviation future Key features Contains important research and industry relevant contributions from world class experts Addresses recent advances in aviation sustainability including multidisciplinary design approaches and multi objective operational optimisation methods Includes a number of research case studies addressing propulsion aerostructures alternative aviation fuels avionics air traffic management and sustainable lifecycle management solutions Sustainable Aviation Technology and Operations is an excellent book for aerospace engineers aviation scientists researchers and graduate students involved in the field

*Sustainable Alternatives for Aviation Fuels* Abu Yousuf, Cristina Gonzalez-Fernandez, 2022-05-31 Sustainable Alternatives for Aviation Fuels presents a technical and economic guide on the development of sustainable aviation fuels from renewable sources With a focus on commercial viability and cost reduction the book explores every aspect of the alternative aviation fuels supply chain including commercially feasible and environmentally sound feedstock production routes the roles of catalysts in processing conceptual process design process economics engine performance future market trends and case studies Readers are provided with the tools to make decisions at every stage that are supported by in depth techno economic analyses lifecycle assessments and considerations for development prospects within the context of sustainability This book offers an excellent overview for readers involved in bioenergy and aviation It is an invaluable resource for researchers and industry practitioners seeking to produce commercially viable alternative aviation fuels Presents the current sustainable alternative fuels for aviation including commercially viable and environmentally sound feedstock and production routes Provides practical guidance on topics such as the role of catalysts in processing conceptual process design and engine performance analysis Explores process economics market trends and LCA analysis in addition to a techno economic analysis of biojet fuel and its sustainability

**Green Aviation** Emily S. Nelson, D.R. Reddy, 2018-06-12 Aircraft emissions currently account for 3.5% of all greenhouse gas emissions The number of passenger miles has increased by 5% annually despite 9/11 two wars and gloomy economic conditions Since aircraft have no viable alternative to the internal combustion engine improvements in aircraft efficiency and alternative fuel development become essential This book comprehensively covers the relevant issues in green aviation Environmental impacts technology advances public policy and economics are intricately linked to the pace of development that will be realized in the coming decades Experts from NASA industry and academia review current technology development in green aviation that will carry the industry through 2025

and beyond This includes increased efficiency through better propulsion systems reduced drag airframes advanced materials and operational changes Clean combustion and emission control of noise exhaust gases and particulates are also addressed through combustor design and the use of alternative fuels Economic imperatives from aircraft lifetime and maintenance logistics dictate the drive for drop in fuels blending jet grade and biofuel New certification standards for alternative fuels are outlined Life Cycle Assessments are used to evaluate worldwide biofuel approaches highlighting that there is no single rational approach for sustainable buildup In fact unless local conditions are considered the use of biofuels can create a net increase in environmental impact as a result of biofuel manufacturing processes Governmental experts evaluate current and future regulations and their impact on green aviation Sustainable approaches to biofuel development are discussed for locations around the globe including the US EU Brazil China and India

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### **Astm D7566 14 Introduction**

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