CHAPTER 7 CHEMISTRY

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What is the significance of a chemical formula Chapter 7? A chemical formula indicates the relative number of atoms of each kind in a chemical compound. For a molecular compound, the chemical formula reveals the number of atoms of each element contained in a single molecule of the compound.

Which chapter is Chemical Equilibrium class 11? Class 11 chapter 7 | Equilibrium | Chemical Equilibrium 01 : Introduction | IIT JEE MAINS / NEET - YouTube.

What is the equilibrium for Class 11? During equilibrium, reactants and products have constant concentrations. The dynamic nature of equilibrium is characterised by the equal rates of forwarding and backward reactions. Equilibrium can be achieved only if no solid products are permitted to get out of the reaction.

What is Chapter 2 of chemistry? Chapter 2 Structure Of Atom.

What is the importance of chemical changes Class 7? Chemical changes are very important in our lives. All new substances are formed as a result of chemical changes. For example, if a metal is to be extracted from an ore, such as iron from iron ore, we need to carry out a series of chemical changes. A medicine is the end product of a chain of chemical reactions.

What does a chemical formula represent Class 7? Chemical formulas are formulas that show the elements found in a particular chemical substance and how many of each atom is found in that particular chemical substance. The four types of chemical formulas are: molecular, structural, condensed, and empirical.

What is the unit 7 in chemistry? Unit 7: Equilibrium This unit explores the how and why of chemical equilibrium. Learn about reversible reactions, the equilibrium constant, Le Châtelier's principle, solubility equilibria, and more.

What is chemical equilibrium Class 7? The chemical equilibrium in a reversible reaction is the state at which both forward and backward reactions occur at the same speed. The stage of the reversible reaction at which the concentration of the reactants and products do not change with time is called the equilibrium state.

Is equilibrium a easy chapter? No it isn't. What makes any chapter tough or easy is your approach towards it. Ionic equilibrium is a chapter in which basic knowledge of logarithm is required.

What is Le Chatelier's law? Le Châtelier's principle states that if a dynamic equilibrium is disturbed by changing the conditions, the position of equilibrium shifts to counteract the change to reestablish an equilibrium.

What are the types of equilibrium in chemistry class 11? The two types of chemical equilibrium are homogeneous equilibrium and heterogeneous equilibrium. Dynamic equilibrium is a state in which there is no modification in the concentrations of the products and reactants because of the proportional rates of the reverse and forward reactions.

How do you find equilibrium concentration in Class 11?

Which is the hardest chapter in chemistry? Organic Chemistry may seem easy at first, but it becomes challenging as you delve deeper into concepts like preparations. Thermodynamics and Equilibrium are considered the toughest chapters.

What is the name of the chapter 12 chapter in chemistry? NCERT Solutions for Class 12 Chemistry Chapter 12 Aldehydes, Ketones and Carboxylic Acids.

What is atom class 8? Answer: a. Atom: An atom is defined as the structural and functional unit of matter. It is the smallest particle of an element which retains its chemical identity in all the physical and chemical changes.

What is the significance of chemical formula What does the formula h2o signify? The significance of the formula H 2 O: The formula illustrates that a molecule of water comprises hydrogen and oxygen. It tells the number of atoms of each element present in the molecule.

What is the significance of given chemical equation? The chemical equation gives us a brief description of the chemical reaction. We can also say that a chemical equation is a symbolic representation of the molecules which take part in the chemical reactant.

What is the significance of these chemical reactions? Chemical reactions are responsible for the formation of stars, and chemical reactions in the core of our sun are responsible for the ignition of our sun. Chemical reactions had a role in the evolution of life on Earth. At its core, the cycle of life is a series of chemical interactions that take place over time.

What is the advantage of using a chemical equation Class 7? Quantitative-Helps in knowing the relation between the quantities of reactants consumed and products formed. The representation of the chemical reaction becomes easy. It saves time and space in writing.

Is the Toyota Land Cruiser pickup available in the US? Toyota says that the 2024 Land Cruiser is starting to arrive at U.S. dealerships. Here's what you need to know about allocation, timing, reservations, and other dealership info. The Land Cruiser First Edition starts at \$76,345, and the base 1958 model costs \$57,345.

How much is a 2024 Toyota Land Cruiser? The 2024 Toyota Land Cruiser has a starting sticker price of \$57,345, with the range-topping Land Cruiser First Edition kicking off at \$76,345. But Kelley Blue Book Fair Purchase Pricing currently suggests paying \$29 to \$39 less than MSRP, depending on trim and equipment. These prices are updated weekly.

How much will the new 70 series Land Cruiser cost? The wagon is actually the cheapest variant in the 2024 Toyota LandCruiser 70 Series V8 range, starting at \$80,900 plus on-road costs for the bare-bones WorkMate or \$83,900 plus ORCs for the specced-up GXL tested here.

How much is the Toyota Land Cruiser dual cab 79 series?

Why is Land Cruiser pickup not sold in US?

How much is the Toyota Land Cruiser pickup?

How many miles per gallon does a 2024 Land Cruiser get? You'll also find more confidence to cover even more ground with its EPA-estimated 23 combined mpg rating.

How many miles per gallon does a 2025 Land Cruiser get? How's the fuel economy? The Land Cruiser's hybrid powertrain gives it better fuel economy than most of its off-road competition, with an EPA-estimated 23 mpg in combined driving.

How many miles per gallon does a Toyota Land Cruiser get? Toyota says the 2024 Land Cruiser has an EPA combined fuel economy rating of 23 mpg. The city rating is 22 mpg and the highway rating is 25 mpg, and that applies to all three trim levels with the 2.4-liter turbo-four hybrid powertrain. The previous-generation V-8 Land Cruiser had an EPA combined rating of 14 mpg.

Why is the LandCruiser 70 series so expensive? Used LC70 asking prices have always been high in comparison to other models (even by Toyota standards) as owners look to capitalise on years-long wait times, and now we know for sure that V8 production is ending there's every chance they will hit new records soon.

How much is a Land Cruiser fully loaded? The price of the 2024 Toyota Land Cruiser starts at \$57,400 and goes up to \$76,345 depending on the trim and options.

Can you still buy a V8 Land Cruiser? The last examples of the V8-powered LandCruiser 70 Series will reach customers at the end of 2025, while a manual four-cylinder enters production this October. Toyota Australia has axed the V8-powered LandCruiser 70 Series and is working to secure as many examples as possible between now and the end of next year.

How heavy is a 79 series LandCruiser dual cab?

When did the dual cab 79 come out? In 2012 Toyota released the five-seat 79 Series double-cab: a tray-back chassis with a cut-off 76 Series wagon body dropped CHAPTER 7 CHEMISTRY

on it. The rear door cut-outs showed where the shorter-wheelbase 76 wagon's rear mudguards would fit.

How much is the 76 series LandCruiser? Looking at the 76 Series LandCruiser wagon only, pricing now starts from \$75,600 plus on-road costs.

Will the Land Cruiser 70 be available in America? The J70 will be offered as a pickup as well, with an aluminum utility bed. But the redesigned J70 isn't headed stateside.

Can I import new Land Cruiser to USA? No matter the vehicle's age, you'll need to fill out all the EPA and DOT paperwork to clear the vehicle with the US Customs and Border Protection. Titling/Registration. Once your Land Cruiser finally arrives, you'll need to get it registered.

Is Toyota bringing the Land Cruiser back to the US? SALT LAKE CITY, Utah (August 1, 2023) – Legends never die. Toyota's off-road icon and longest-running nameplate is making a triumphant comeback to North America for the 2024 model year, returning to its rugged origin.

How much will the 2024 Toyota Land Cruiser cost? 2024 Toyota Land Cruiser Prices Range from \$57,345 to \$76,345. The lineup starts with the 1958 base model with cloth seats and goes up to the loaded First Edition, with the \$63,345 standard Land Cruiser in the middle. The 2024 Toyota Land Cruiser has a base price of \$57,345.

Do Land Cruisers hold their value? Dependability – Land Cruisers have a reputation for durability, reliability, and longevity. This reputation contributes to their value retention over time, as they are perceived as solid investments that will hold up well over years of use.

Is Land Cruiser bigger than 4Runner? And, well, the 4Runner and Land Cruiser seem even closer than we were expecting. First of all, the wheelbase and width are practically identical (the Land Cruiser is only a tenth of an inch wider). Length is darn close, too, with the 4Runner stretching only 1.1 inch longer than the Land Cruiser.

What is the average lifespan of a Toyota Land Cruiser? What is Toyota Landcruiser lifespan? The estimated lifespan of a Toyota Landcruiser is 271,000mi, CHAPTER 7 CHEMISTRY

before reaching the life expectancy upper limit. Fuel type is a major factor when looking into a vehicles lifespan/life expectancy.

How much is a 2025 Land Cruiser? The 2025 Land Cruiser should continue to start in the mid-\$50,000 range, although there will likely be a small increase. The top model should be well into the \$70,000 range.

Does the 2024 Toyota Land Cruiser require premium gas? "In the Land Cruiser's owner manual if we head on over to page 640, this is what it says, guys. 'You must only use unleaded gasoline. Select premium unleaded gasoline with an octane rating of 91 or higher for optimal engine performance and fuel economy," he reads from the book.

What is the life expectancy of a Toyota Land Cruiser 100? How long do Toyota Land Cruisers last? With all that said, it's safe to say the Land Cruiser can give you a long lifespan of between 200,000 and 250,000 miles before it needs significant work.

How far can a Land Cruiser go on a full tank? Assuming a combined city/highway fuel efficiency of around 15 miles per gallon (mpg), the Land Cruiser 200 series could theoretically travel approximately 369 miles (593 kilometers) on a full tank of fuel. Actual mileage may vary based on driving habits, terrain, cargo load, and other factors.

What Toyota gets 52 miles per gallon?

Is Toyota bringing the Land Cruiser back to the US? SALT LAKE CITY, Utah (August 1, 2023) – Legends never die. Toyota's off-road icon and longest-running nameplate is making a triumphant comeback to North America for the 2024 model year, returning to its rugged origin.

Will the Landcruiser 70 be available in the USA? Sorry, No J70 Land Cruiser for US Market That's right: The V8 has far less torque because it's naturally aspirated—and horsepower's thin, too—but a manual transmission would be back on the menu to help make some burly noises in traffic. If you're into that sort of thing.

Can you import a Toyota Land Cruiser to the US? Customs Clearance. Once your Land Cruiser arrives, US customs will want to review all the documents that prove you're the owner of the vehicle and that it meets US standards. For example, CHAPTER 7 CHEMISTRY

the fender must meet DOT standards, the engine must meet EPA standards, etc.

Where is the Land Cruiser 70 being sold? Beginning in the fall of 2023, the Land Cruiser 70 Series was back on the world stage in a big way. Not for everyone – the North American market will not see this model anytime soon –, but the Japanese market has something to get excited about.

Can I preorder a 2024 Land Cruiser? This model has evolved over 65 years and it continues to provide uncompromising performance. Pre-order the all-new 2024 Toyota Land Cruiser and see for yourself how this model can transform your commute!

How much is the 2025 Land Cruiser? The 2025 Land Cruiser should continue to start in the mid-\$50,000 range, although there will likely be a small increase. The top model should be well into the \$70,000 range. Deliveries of the 2024 models didn't begin until spring, but we're expecting 2025s to follow a more traditional schedule.

How many miles per gallon does a 2024 Land Cruiser get? You'll also find more confidence to cover even more ground with its EPA-estimated 23 combined mpg rating.

Can you buy Toyota Land Cruiser in USA? In the U.S., the 2024 Land Cruiser starts at \$55,950 before a \$1,395 destination charge. Found at the base of the range is the Land Cruiser 1958, which sports simple circular LED headlights and cloth seats.

How much is Toyota Land Cruiser 70 in USA? For a brand-new Land Cruiser 70, the basic trim version typically costs around \$80,000.

What is a Toyota Land Cruiser called in the US? Exceptions include the United States (since 2021 where the smaller Land Cruiser Prado has been sold under the Land Cruiser Name since 2024), Canada (since 1996), Malaysia (which receives the Lexus LX instead), Hong Kong, Macau, South Korea, Brazil, and most of Europe.

Why did Toyota stop selling Land Cruiser in USA? The Land Cruiser discontinued in the U.S. in 2021 hadn't received a major update in years. Starting at upward of \$80,000, it struggled to compete in the high-price segment, though it retained a following among some off-road enthusiasts.

Why is the Land Cruiser so expensive in the US? Prestigious Reputation Its distinctive design and outstanding performance have elevated it to a status symbol. Owning a Land Cruiser not only signifies a commitment to quality and capability but also enhances one's personal and professional reputation. This prestige adds to the overall perceived value of the vehicle.

How much is a Toyota Land Cruiser on road in USA? 2024 Toyota Land Cruiser Prices Range from \$57,345 to \$76,345. The lineup starts with the 1958 base model with cloth seats and goes up to the loaded First Edition, with the \$63,345 standard Land Cruiser in the middle. The 2024 Toyota Land Cruiser has a base price of \$57,345.

Can I import a 70 series Land Cruiser? Yes, you can import a 70 Series Land Cruiser, but expect to pay a lot of money to modify it to make it meet the standards of both EPA and DOT.

How much is a Land Cruiser 70 dual cab? CarsGuide has published 7 expert reviews of the Toyota Landcruiser 70 Series. It has an average rating of 7.5 out of 10. Read all the reviews here. The Toyota Landcruiser 70 Series is available from \$75,600 to \$87,600 for the 2024 range of models in SUV, Single Cab and Dual Cab body types.

Can you still buy a 70 series LandCruiser? Toyota Australia has stopped taking orders for the LandCruiser 70 4.5L turbo-diesel V8. More information is available here.

Scenes of Subjection, Terror, Slavery, and Self-Making in Nineteenth-Century America: A Conversation with Saidiya V. Hartman

Introduction

Historian Saidiya V. Hartman has spent her career examining the hidden histories of enslaved people and other marginalized groups in the United States. Her groundbreaking work, "Scenes of Subjection: Terror, Slavery, and Self-Making in Nineteenth-Century America," has shed new light on the ways that violence and oppression shape human lives and create conditions for resistance.

Question: What is the central theme of "Scenes of Subjection"?

Hartman: The book explores the relationship between violence, subjugation, and the ways that enslaved people asserted their agency and humanity under conditions of extreme oppression. I argue that violence was not simply a means of control, but also a form of terror that damaged the psyches of enslaved people and created a state of constant fear.

Question: How did you approach the study of slavery from the perspective of the enslaved?

Hartman: Traditional histories of slavery often focus on the perspective of the enslavers or the abolitionist movement. My work seeks to give voice to the enslaved themselves, using fragments of narratives, legal documents, and other sources to piece together their experiences.

Question: What are some examples of the "scenes of subjection" you describe in the book?

Hartman: These scenes include public whippings, lynchings, forced separations from family and community, and the constant threat of sexual violence. Such experiences not only physically harmed enslaved people but also had profound psychological and spiritual effects.

Question: Despite the horrors of slavery, how did enslaved people find ways to resist and assert their humanity?

Hartman: Despite the overwhelming odds, enslaved people found ways to resist their oppression in subtle yet profound ways. They created their own forms of community, culture, and language. They used acts of sabotage, slowdowns, and flight to assert their autonomy. And they engaged in acts of self-affirmation, such as claiming their own names and refusing to submit to the degrading demands of their enslavers.

Conclusion

"Scenes of Subjection" is a powerful and deeply moving work that challenges us to confront the horrors of slavery and to recognize the ways that it continues to shape our present-day society. By giving voice to the enslaved, Hartman offers a profound testament to their resilience and humanity in the face of unimaginable suffering.

What is the use of PEMFC? Proton exchange membrane fuel cells (PEMFCs) are regarded as clean energy generation devices because they use electrochemical reactions to produce electricity. The membrane and electrodes used in these devices govern the reaction mechanisms and thus the overall performance of the system.

Which PEM fuel cell needs to operate at very high temperatures? High Temperature Proton Exchange Membrane fuel cells (HT-PEMFC), also known as High Temperature Polymer Electrolyte Membrane fuel cells, are a type of PEM fuel cells which can be operated at temperatures between 120 and 200°C. HT-PEM fuel cells are used for both stationary and portable applications.

How do you predict fuel cell performance?

What is PEM fuel cell stack? A PEMFC cell is mainly composed of bipolar plates, gas diffusion layers, two electrodes: anode and cathode, and a membrane between both electrodes. A fuel cell stack refers to the connection of cell in series. The fuel is supplied to the anode and the oxidant is supplied to the cathode.

Is PEM cell a fuel cell? Polymer electrolyte membrane (PEM) fuel cells, also called proton exchange membrane fuel cells, use a proton-conducting polymer membrane as the electrolyte.

What are the advantages and disadvantages of PEMFC fuel cell? PEM fuel cells are widely recognized for their high electrical power output and environmental sustainability. However, in a PEM fuel cell around 50 to 60 % of energy generated from chemical reactions is dissipated as heat energy.

What is the difference between AEM fuel cell and PEM fuel cell? While PEM cells have membranes that conduct protons in an acidic environment, AEM cells conduct hydroxide ions in an alkaline environment. This high equivalent pH of the AEM membrane allows for stable catalysts with low or zero PGM levels, otherwise difficult to achieve in PEM cells [15].

What are three types of fuel cells?

What is the most effective fuel for a fuel cell? Fuel cells directly convert the chemical energy in hydrogen to electricity, with pure water and potentially useful heat as the only byproducts. Hydrogen-powered fuel cells are not only pollution-free, but also can have more than two times the efficiency of traditional combustion technologies.

What is the most promising fuel cell? As one of the most promising sources of sustainable energy, hydrogen fuel cells offer a wide range of advantages that make them an appealing choice for a variety of applications.

How can I improve my fuel cell performance? Water management strategies, such as using humidifiers or recirculating water, help control humidity levels within the fuel cell and prevent issues like membrane drying or flooding. 3. Pressure Control: Fuel cell performance is also sensitive to the pressure of the reactant gases, usually hydrogen and oxygen or air.

How long will a fuel cell last? For example, many automakers of passenger cars aim for a fuel cell stack lifespan of at least 5,000 hours or approximately 150,000-200,000 miles. In the heavy-duty category, many bus fuel cell stacks (power plant) have reached lifetimes of 20,000 hours and more, with a goal of 30,000 hours by 2030.

What is the life expectancy of a PEM fuel cell? a typical life expectancy of the PEMFC is around 2500 hours, whereas trans- portation applications require at least 5000 hours and stationary applications require at least 40000 hours [17, 18].

What is the difference between a PEM fuel cell and a PEM electrolyzer? Fuel cells are electrochemical cells that convert chemical energy into electricity and electrolyzers convert electrical energy into molecules with high potential energy densities.

Why are PEM fuel cells expensive? Unfortunately, the cost of the materials needed to build a PEMFC is quite high. For example, the proton exchange membranes, gas diffusion layers, bipolar plates and most particularly the precious metal catalysts make up around 70 percent of a PEMFC's cost [Source: Basic CHAPTER 7 CHEMISTRY]

Research Needs for a Hydrogen Economy].

Is Elon Musk switching to hydrogen?

Which fuel cell has the highest efficiency? Alkaline Fuel Cells Operating at 60-70°C (140-158°F), AFCs are among the most efficient type of fuel cells, reaching up to 60% efficiency and up to 87% combined heat and power. Both the US and Russian/Soviet spaceships used alkaline fuel cells to produce electricity and drinking water for astronauts.

What is the difference between alkaline and PEM fuel cells? Alkaline fuel cells These fuel cells are closely related to conventional PEM fuel cells, except that they use an alkaline membrane instead of an acid membrane. The high performance of AFCs is due to the rate at which electro-chemical reactions take place in the cell.

What is the biggest disadvantage of fuel cells?

What electrolyte is used in PEM fuel cell? The electrolyte material used in PEMFCs is a copolymer of poly(tetrafluoroethylene) and polysulfonyl fluoride vinyl ether. The polymer is stable in both oxidative and reductive environments and has high protonic conductivity (0.2 S/cm) at typical PEMFC operating temperatures.

What is the only exhaust produced by a fuel cell? Fuel cell electric vehicles (FCEVs) are powered by hydrogen. They are more efficient than conventional internal combustion engine vehicles and produce no harmful tailpipe emissions—they only emit water vapor and warm air.

Is AEM better than PEM? The anion exchange membrane electrolysers use a semipermeable membrane designed to conduct anions. They are a viable alternative to PEM with all the same strengths and several key advantages that lead to lower cost.

How much electricity does a PEM fuel cell produce? PEM fuel cells have been shown to be capable of high power densities up to 39.7 kW/kg, compared to 2.5 kW/kg for solid oxide fuel cells.

What is the capital cost of a PEM electrolyzer? Collectively, these show that electrolyzer total capital costs may range from \$1,400/kW to \$2,500/kW, an increase

from a previously estimated range of \$1,000/kW to \$1,800/kW reported by Lazard [27], S&P [28], IRENA [29], BNEF [30], and DOE's Initial Liftoff Report [4].

What is a bacon cell? The alkaline fuel cell (AFC), also known as the Bacon fuel cell after its British inventor, Francis Thomas Bacon, is one of the most developed fuel cell technologies. Alkaline fuel cells consume hydrogen and pure oxygen, to produce potable water, heat, and electricity.

What is the lifespan of a hydrogen fuel cell? Hydrogen fuel cells can last between 5,000 to 10,000 hours, which is approximately 5 to 10 years, under normal conditions. Hydrogen fuel cells are a type of energy conversion device that transforms the chemical energy stored in hydrogen and oxygen into electricity.

Why is a methanol fuel cell better than a hydrogen fuel cell? Methanol's is a superior hydrogen carrier due to its physical characteristics of being liquid at ambient temperature and pressure. This enables its ease of storage and transport with existing infrastructure without the need for intensive capital investments in new infrastructure.

Why is PEMFC better? The advantages of using a PEM are the high power density produced in FC operation and the low operating temperature which makes it suitable for commercialization. A 250 kW PEM power source was developed as early as in 2001 by Ballard Power Systems, Canada, for power distribution and generation [1].

What is the need of micro fuel cell? MFCs are attractive for power generation applications that require only low power, but where replacing batteries may be impractical, such as wireless sensor networks. Wireless sensors powered by microbial fuel cells can then for example be used for remote monitoring (conservation).

What are hydrogen fuel cells best used for? Hydrogen can be used in fuel cells to generate power using a chemical reaction rather than combustion, producing only water and heat as byproducts. It can be used in cars, in houses, for portable power, and in many more applications.

What are solid oxide fuel cells used for? A solid oxide fuel cell (or SOFC) is an electrochemical conversion device that produces electricity directly from oxidizing a

fuel.

What is the efficiency of a PEMFC fuel cell? PEM fuel cells, Plug's technology of choice, average about 40 to 60% efficiency. Combustion engines, by contrast, only average 20% to 35% efficiency in powering cars. As the U.S. Department of Energy has stated, "Fuel cells are the most energy efficient devices for extracting power from fuels."

What is the difference between solid oxide fuel cell and PEMFC? There are two main differences between solid oxide and proton exchange membrane fuel cells? Fuel: PEM fuel cells use pure hydrogen (H2) as a fuel. Meanwhile, solid oxide fuel cells can use hydrocarbon fuels such as natural gas, methane and propane to generate electricity.

What is the market for PEMFC fuel cells? The global proton exchange membrane fuel cell (PEMFC) market size was USD 1.56 billion in 2020 and is projected to grow from USD 2.10 billion in 2021 to USD 22.74 billion in 2028 at a CAGR of 40.6% in the 2021-2028 period.

What are the disadvantages of micro fuel cells? Other disadvantages and limitations are low growth rate of microorganisms, toxicity caused by the materials used, low power output, lack of durability and strength of electrodes, high cost and low efficiency of membranes, high material and maintenance cost [74].

Why are fuel cells not commonly used? They are expensive and contaminate easily. In addition, they pretty much only use hydrogen for power which is inefficient, ~70%, to generate and use. Essentially fuel cells are an expensive, inefficient battery.

What are 3 advantages of fuel cells?

Why don't we use hydrogen fuel cells? Overall Cost. The cost for a unit of power from hydrogen fuel cells is currently greater than other energy sources, including solar panels. This may change as technology advances, but currently this cost is a barrier to widespread use of hydrogen even though it is more efficient once produced.

What is the biggest drawback of using hydrogen fuel? Hydrogen is a highly inflammable substance and explosive in nature; it cannot be easily transported from one place to another and it can be generated by the hydrolysis of water but it is a very expensive process.

What is the future of hydrogen fuel cells? Currently, hydrogen cells are used in various niche markets, but their use is expected to grow significantly in the coming years. They will become more cost-effective as production scales up and the technology becomes mature. Future hydrogen cells are expected to be more efficient and affordable.

What does PEM stand for in fuel cells? The polymer electrolyte membrane, or PEM (also called a proton exchange membrane)—a specially treated material that looks something like ordinary kitchen plastic wrap—conducts only positively charged ions and blocks the electrons.

What are the five types of fuel cells?

What are the disadvantages of solid oxide fuel cells? The SOFCs boast high fuel flexibility, low emission and relatively low operating costs. However, the main drawbacks of this technology are the high costs of manufacture and the rapid deterioration of the fuel cell performance.

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