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Question Asked 4 years ago

**Anita Maslahati**

4.99 · Universiti Teknologi Malaysia

What is the best way to determine H2O2 concentration ?

For leachate treatment need to find concentration of H2O2. I have been reading some journals which maintain the iodometric method. Is it the only method for measuring?

Water Engineering

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1 Recommendation

Popular Answers (1)

**Eva M Rodríguez**

Universidad de Extremadura

4 years ago

Hi, Ana

The method of Masschelein et al. can be used for $3 \cdot 10^{-7} \text{ M} < [\text{H}_2\text{O}_2] < 5 \cdot 10^{-5} \text{ M}$ (Masschelein, W.; Denis, M.; Ledent, R. Spectrophotometric determination of residual hydrogen peroxide. Water & Sewage Works (1977) 69-72).

Other methods (for higher $[\text{H}_2\text{O}_2]$): The Eisenberg's method (Eisenberg, G.M. Colorimetric determination of hydrogen peroxide. Industrial and Engineering Chemistry 15 (1943) 327-328), and the method of Nogueira et al. (Nogueira, R.F.P.; Oliveira, M.C.; Paterlini, W.C. Simple and fast spectrophotometric determination of H2O2 in photo-Fenton reactions using metavanadate. Talanta 66 (2005) 86-91).

Hope this helps

3 Recommendations

All Answers (7)

**Luca Patauner**

INDUSTRY

4 years ago

Iodometric is one method; as peroxide is an oxidizing agent (strong) is possible to use a reducing agent for assay; i.e. iron II sulfate. In this last case iron turns from green to orange (brown) color so with a colorimeter or spectrophotometer the titration can be followed well. Other option may be chrome III that in basic environment is oxidized to chrome 6 and so the solution at the beginning is yellow and then turns to green.

A last and maybe better option is the oxidation of some weak organic dye so an evident change of colour may be observed

1 Recommendation

**Eva M Rodríguez**

Universidad de Extremadura

4 years ago

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Hope this helps

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**How do I estimate H2O2 concentration?**

i already estimated the H2O2 concentration using KMnO4 titration but the concentration is not exact as we expected.so i need a method for H2O2...

5 answers added

**How to prepare 40 mM hydrogen peroxide from 30% H2O2 solution ?**

For H2O2 radical scavenging assay. How to prepare 40 mM hydrogen peroxide from 30% H2O2 solution ? Thanks in advance.

53 answers added

**How can I determine the H2O2 in water by UV-Vis Spectrometer?**

Can anyone please tell me the BEST method to determine the H2O2 concentration in water by UV-Vis Spectrometer?

4 answers added

**Which is the best spectrophotometric method for determination of hydrogen peroxide? What is the best medium for its extraction from plant parts?**

Is 5% TCA good for extraction of hydrogen peroxide from plant parts? Is it necessary to extract and centrifuge homogenate at 40C?

16 answers added

**I have H2O2 of molecular wt 34.01gm and 30% w/v. What does it mean that I am not getting it and I want to prepare 0.1M solution, how can i?**


I am a physics student hence facing difficulty.

37 answers added

**Hydrogen peroxide quantification?**

I am using hydrogen peroxide to oxidise allyl alcohol to glycidol with a microporous catalyst in an aprotic solvent.

3 Recommendations



Javier Moreno-Andrés


Universidad de Cádiz

4 years ago

Hi Ana, I have been working with Eisenberg’s method (Eisenberg, 1943); and I can tell you that it is simple and reliable. I recommend it for determine H2O2 concentration.

Good luck;

2 Recommendations



Chloe Chrdon


École Polytechnique Fédérale de Lausanne

2 years ago

Hello,

With the method of Eisenberg’s do you know is other oxidant (percarbonate, C₂O₆²⁻, in my case) will interfeer or not?

I would like to measure separetly them which is not possible with the titration method.



Amal Abdelhaleem

The Hong Kong Polytechnic University


7 months ago

Dear Javier

Could you please send me the procedures using Eisenberg’s method.

Thanks in advance

Regards,




Javier Moreno-Andrés

Universidad de Cádiz

7 months ago

Hi Chloee,

Eisenberg’s method is a colorimetric determination; which produced in solution yellow color; so depending of the color of the solution I think it could interfere it.



Javier Moreno-Andrés


Universidad de Cádiz

7 months ago

Hi Amal, I attached you some papers from my department in which that method is explained.

Article [Comparative effect of simulated solar light, UV, UV/H2O2 and...](#)

Article [Determining disinfection efficiency on E. faecalis in saltwa...](#)



Can you help by adding an answer?


Answer

Enter your answer

Add your answer

Analysis is done by GC-FID...


11 answers added



How can I calculate the activity of catalase using a spectrophotometric method?

I’m working according to protocol by Sizer and Beer (1952). I took 50 mM phosphate buffer, pH(7.0) (2.4 mL) and added 0.5 ml H2O2 – in one...


8 answers added



Which type of hydrogen peroxide solution shall I use to induce oxidative stress in cells?

I want to induce oxidative stress in osteoblasts using hydrogen peroxide solution. However, I am not sure whether I chose a suitable product from...


19 answers added



How can I calculate the band gap from UV-Vis absorption spectra of thin films consisting of TiO2 and other metal complexes?

I have prepared thin films of TiO2 and other Metal complex with TiO2 on a glass substrate. I just need to calculate band gaps of materials on the...

77 answers added



How do I prepare the standard curve for H2O2(800micromoles) and use it to calculate catalase activity using sinha's method?

I want to apply the method by Sinha 1972?

8 answers added

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2/3

