

## What is your disinfection of choice?



Bjoern Pietruschka • 2nd  
"Biotech Engineer & Entrepreneur

"OKB/p Biot...

2d \*\*\*

It is case dependent: UV, Filtration or Hypochlorite dosing...and more.  
Keypoint is the right solution for the situation



Erick Boehmler • 3rd+  
Hydrologist at Northeast RFC

2d \*\*\*

Wasn't thinking water really but surfaces on my original vote. Not sure if it would be effective, but UVC light over a low depth laminar / slow stream might be preferable to solutes



Luis Antonio Gomez-Ávila C.E. MSc. Dr.Eng. • 2nd  
DOCTOR INGENIERO DE CAMINOS, CANALES Y PUERTOS Especialista A...

1w \*\*\*

In our drinking water treatment facilities we use Chlorine Gas. So, with this product we make sure to have an adequate residual chlorine content to be able to reach the most distant user of the distribution network with the proper disinfection.



Robert Poling Jr, CPWM • 2nd  
Free Agent

1w \*\*\*

Chlorine gas. Works great and gives a very good system residual. People that dislike it don't know how to properly operate a gas system. I'll take it over the mess of a Cal-Hypo system any day.



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Ferry Horvath • 2nd  
Een en alchemie

Ultra Filtration!



Rob van der Leer • 1st  
Team leader / product owner @people@water@data

Ultraviolet



Mark Bishop • 1st  
President at Wild Horse Innovation, Inc.

Hypochlorous acid



Erick Boehmler • 3rd+  
Hydrologist at Northeast RFC

2d ...

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Dominic Wilder-Finch • 2nd  
Wastewater Laboratory Analyst & Operator

Magnified Sunlight



Abhijeet Kumar • 2nd  
Technical Head at Indra Water (R&D and Engineering) Water and waste...

OH radicals



Ayush Bhadauria • 2nd  
Mechanical Engineer at SIMALABS PVT.LTD

Ozone & UV #Alpha #Xylem



Ajay Mane • 1st  
PMP® Certified Project Manager with 15 Yrs of experience in Project M...

Ozone system and UV



Mr. wallis • 2nd  
Owner, ZWT

Ozone and uv



HOSSEIN MOHAMMAD NIYA • 1st

1w \*\*\*

Reuse projects designer ( PUMP STATION ,DTRO , STRO, IC REACTOR, E...

The electrolysis system of multi oxidant production is the best choice, because chlorine gas can be dangerous if the building is not properly maintained and there is risk capsules that transported, Also the supply of raw materials for the production of chlorine dioxide is risky.

Calcium hypochlorite requires precise solution and contains calcium chloride precipitate and is only used for small treatment plants.



Saunak Shah • 1st

Engineer - Sales and Service at Pure Water Enterprises Pvt. Ltd.

It depends on case to case basis and the requirement.



Saunak Shah • 1st

1w \*\*\*

Engineer - Sales and Service at Pure Water Enterprises Pvt. Ltd.

Sodium hypochlorite is by far the most economical way of disinfection of waste water. It's use in potable water application is not much heard of . It can be used for residual chlorine purpose. Can be stored in liquid form. Needs smbs dosing for nullifying it's effect if membrane Filtration is there downstream.



Denis Pavlov • 2nd

Technical director & Founder (wastewater treatment and reuse) – Trans...

Ozone and ultraviolet by [#Xylem](#) ( [#Wedeco](#) )



osama saif • 3rd+

11h (edited) \*\*\*

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I have a bachelor's degree in chemical industries 5 years with 7 years experience in Supervisor operator plant waste water treatment and drinking water treatment plant and lab technician and supervisor and Assistant engineers operation in waste water treatment plant and drinking water treatment plant at the site



Saunak Shah • 1st

Engineer - Sales and Service at Pure Water Enterprises Pvt. Ltd.

1w \*\*\*

Ozone is a very good option but it has to be manufactured on site. Ozone manufacturing equipment is costly. It is good for enriching/disinfection of portable water. It is not feasible for waste water disinfection.

Chlorine gas also requires its own infrastructure for handling. Chlorine gas is generally available in tonner cartridges and they have to be stored properly. If it is available as a by product like as in chlor alkali industry then it's a good option but if it has to be transported then logistically it will be costly. Also there are hazards of chlorine leakage if handling personnel is not well trained. If there is a RO membrane filtration step then chlorine will have to be nullified by dosing smbs. Else it will cause oxidation of the membrane. can be used in waste water and portable water application where residual chlorine is required.

Chlorine dioxide is relatively new option. It can be generated on site in relatively simple way by adding powder in water. It has a higher ORP than ozone and chlorine. The final compound dissociates into oxygen and chloride ion so it's safe for membrane also. It has to be used quickly as it will lose its strength with time.



Jonathan Dale • 2nd

Operator at City of Waco

Really interested in ferrate.



Mick De Maeyer • 2nd

Sales Engineer bij Kurita Group - Helping companies to improve water t...

In situ produced monochloramine.



Oliver Simmons • 3rd+

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Ultraviolet System



Manoj Kumar • 2nd

Manufacturing and selling ozone Disinfection products for air and wate...

Ozone



Canuky Alwert • 2nd

--

We have uv system



**André Schramm Brandão** • 3rd+  
Doctoring of Engineering and Materials Science | Civil Engineer | PMI m...  
Ultraviolet...



**Ragesh Santha** • 3rd+ 1w \*\*\*  
Lab Shift Supervisor  
Chlorine dioxide best disinfectant for drinking water, it can destroy even virus and reduce THM and bromate formation in drinking water



**Kamma Ahubelem (He/Him)** • 1st 1w \*\*\*  
EHS Specialist at Boeing  
Depends on the media and surface being disinfected. For surfaces that are not prone to bleaching, hypochlorite or peroxides would be my preference. For surfaces that are prone to bleaching, I would prefer carboxylic acids.



**Stephan Jakobs** • 1st 1w \*\*\*  
Head of Sales (Hygiene Concepts) & Senior Consultant (Green Water Re...  
Hypochlorous acid (HOCl) is my choice. Due to the neutrally charged HOCl-molecule, it is able to attack all microorganisms and penetrate the cells. Even with highly contaminated water, it is a good and safe alternative to all other non-chlorine-based or chlorine-based disinfectants and wins the comparison with any disinfection process/technology in terms of full costs when HOCl is produced on site (in-situ).



**Jessica D.** • 2nd  
Civil Engineer @ Sweco UK (fall 2021) | Military Spouse USAF us  
UV/H<sub>2</sub>O<sub>2</sub> best combo to remove pathogens and CECs



**Salvador Gaspar** • 3rd+  
Engineer Services, Sales and After Sales Service Engineer in Anguiano y ...  
UV disinfection



**Adam Fendrych** • 3rd+ 1w \*\*\*  
Knowledge is of no value unless you put it into the practice.  
Depends on the circumstances. Each disinfectant has his pros and cons and also by-products. Best way is to have high quality raw water, robust treatment and physical disinfection (ultrafiltration, UV light). If your drinking water network is in good condition, you don't need any chemical disinfectant or residuals in the network.



**Sam Supowit, PhD, PE** • 2nd  
Professional Engineer

Ozone!



**Justin Brown** • 1st  
Field Engineer / Water Treatment / R&D / Operator

Hypo is easier and safer to dose.



**Michel Bosch** • 1st  
Tankcontainer cleaning, waste water treatment and depot services

Hydrogen peroxide



**Michael Schader** • 3rd+  
Industrial Automation Professional

ozone



**Thembinkosi Sbusiso masinga** • 3rd+  
Process Controller at Foskor Pty

1w \*\*\*

Our demineralized plant produce 80 m3, using potable water from municipality Cl2 gas is the best disinfection agent of choice.



**Kadiyam Subrahmanya Prasad** • 3rd+  
Assistant Vice President - Technical Services at Aditya Birla Chemicals (T...

Hydrogen peroxide



**Luis Zarate** • 2nd  
Senior Operations Manager

6d \*\*\*

All what you mentioned can be excellent oxidant biocides, but its use takes a high risk if we talk about safety; chlorine dioxide can be used in a large pH range, at minor doses than hypochlorite (cost reduction), is less corrosive than hypochlorite, chlorine gas and peroxide for many metallurgies, and using the right technology is a lot of more safety than others..



**Rene Hendriksen** • 2nd  
Beschikbaar / Sales Manager / Consultant

O3



**Ho Kei Michael Lee** • 1st  
Engineering Team Leader at Air Liquide

Ozone



**Wesley Lutz** • 3rd+  
Chief Research Officer (CRO) at Self-Employed

4d \*\*\*

It really depends on the scale of the water system, for smaller scale systems hypochlorite injection is simple and straightforward but there are definitely some pluses to the other options when you have a larger scale water system.



**ASHOK MITTAL** • 2nd  
Chief Design Engineer at NTPC

Ozonization



**Grander Water UAE** • 1st  
سماحة لتقنيات الماء

Quantum Disinfections



**Jeff Knight, PE, PMP** • 1st  
Municipal Assistant Director Water Resources Department - Field Opera...

UV.



**Jim Robinson** • 2nd  
RSM - EMERITUS (AKA - Retired) at Retired

Peracetic Acid



**Ghazi ALMANI** • 2nd  
Sales Director & Marketing Consultant. MENA Filtration (R.O, U.F, WTP...

1w (edited) \*\*\*

Having sold and installed all of the mentiined and even more not in the list, All are fine but nowadays and with the product developments and issues of safety and foulings and DBD's and actual residues, the least is the UV and gas chlorination and the most is not Ozone. But always depends on the applications and site conditions and requirements of the treated or untreated water or wastewater. There is no product that have ALL disadvantages. Hoping to start promoting very soon the most efficient, easiest to operate, easiest to handle and even chemical availabilities and safe storage of chemicals and low cost in the after sale of replacing or reconditioning.



**Mark Dawson MWMSoc.** • 2nd  
International Director of Sales ■ Legionella Rapid Test Development an...

6d (edited) \*\*\*

Stabilised Hydrogen Peroxide(non silver) 🧴

Depends on the system though.



**Thomas Schmer** • 2nd  
Head of Global Sales Ultralight AG  
UV



**Gerald Moughler** • 2nd  
Senior Civil Engineer at BSE Consultants, Inc.  
Nano oxygen



**Harish Anantharaman** • 3rd+ 1w \*\*\*  
--  
For wet cleaning and treatment Ozone using Nanobubbles ..... Makes up for most of the disadvantages associated with it normally .... For dry surface Sanitation UV.



**Rajesh Menon** • 2nd 1w \*\*\*  
Entrepreneur @ Clean Environment Technologies (CET®)- Waste2Energ...  
We have to try natural solutions where ingredients are available practically free like Azadirachta Indica (Neem) & Ocimum Sanctum (Tulsi / Holy Basil)



**Bill Cardinal** • 2nd 1w \*\*\*  
Sr Operations Supervisor  
I have a number of disinfectants in my plants. Ozone, UV and Sodium Hypochlorite. Each has its purposes, attributes or disadvantages.



**Sanjay Kumar Agarwal** • 1st  
Senior Marketing Water Professional in India  
Latest but cost effective



**Jason Porter** • 1st  
Lead Water Treatment & Production Operator at City of Santa Monica  
Ozone



**Pranav Rastogi** • 1st  
Planning Engineer at Laxmi Construction-Ahmedabad  
UV light





Azmat Ullah Momin Shah • 1st  
Water Treatment Specialist

1w \*\*\*

Depends project to project.  
However chlorine dioxide is the best of all the three but proper safety measurement are very much mandatory



Anna Morynets • 1st  
Project Manager at GlobeCore - Transformer oil purification/oil analysis

1w \*\*\*

Thank you so much for posting this! we designed a machine (called AVS) which can perform a real fine mixing with reagents, so you will be able to save on amount of it, it could be supplied without excess .  
Hope it could be usefull information!



Reda Sharawy • 1st  
Water Utility GM at Cairo International Airport

The most economic in long term for surface water



Petri Ajo • 1st  
Head of Environmental Technologies at Flowrox

1w \*\*\*

We managed a case of process water disinfection with plasma oxidation, connecting the unit to a large tank that collects plant waters and sends them forward for reuse. True, there is optimal place for all the above solutions, and this is where we got plasma working very well.



Shirish Jayant Kardile • 1st  
Consulting Engineer, Owner, K Consultation

1w \*\*\*

For large plants Chlorine, For small plants Hypo and for polluted water Dioxide.



bridgwater daniel • 3rd+  
water treatment

1w \*\*\*

Chlorine gas very effective in keeping a free residual at the end of our system



Rienk Huysse • 3rd+  
Postal Processor .

Once connected properly works great



**John Ravenhill** • 3rd+  
Chief Executive Officer at E-TerraTech

nonchemical of course -uv



**Tony Sacco** • 2nd  
Ozone Water Treatment Specialist

1w \*\*\*

All of these agents have applications where they are best suited. Ozone is a very effective biocide where a short residual lifetime is useful. I don't think there is a best choice for all situations.



**Thomas Mari** • 3rd+  
Mostly Retired, Could be open to short term opportunities as well Cons...

1w \*\*\*

It depends on what I am trying to disinfect! Choosing the proper disinfection method is always crucial.



**John Christopher (Chris) Benten, BSChE, MBA, PMP** • 1st  
Plant Engineer

Peroxide or ozone



**Mark Bishop** • 1st  
President at Wild Horse Innovation, Inc.

Hypochlorous acid, as God intended.



**Saeed Samani** • 2nd  
Postdoctoral, Environmental Engineering at University Of Tehran/ Zende...

1w \*\*\*

Mixed oxidants disinfection solution from electrolyzing salty water



**Jim Wark** • 1st  
Residential, Commercial, Industrial & Municipal Water Treatment at Aqu...

1w \*\*\*

It is a water treatment chemical that does have NSF, look up on site



**Scott LeBlanc** • 1st  
Senior Technical Consultant CPI NAM at SUEZ - Water Technologies & S...

1w \*\*\*

As for cooling towers, all 3 have their place... Ammonia plant or refinery w/process contamination >>> Chlorine Dioxide... plant adverse to feeding chlorine gas or a small system >>> Hypochlorite... plant generates chlorine gas (Chlor-Alkali plant) or plant is not adverse to feeding chlorine gas >>> Chlorine Gas.

Basis: Safety, Efficacy, Cost



**Norman Ammerer, MBA** • 1st

Water + Air Treatment | Disinfection | Filtration | Product Manager | Mar...

UVC



**ahmad radwan** • 1st

water treatment technician في Saraya Aqaba Waterpark

1w \*\*\*

Ozone can be used with chlorine, as ozone is a strong sterilizer and chlorine lasts longer



**Edouard d'Autume** • 2nd

SVP, Head of Strategy & Business Development for Peroxides chez Solvay

Peracetic acid



**Brian Simmons** • 2nd

looking

Ozone



**E. Andrew Condon** • 2nd

Founder at AquaDynamics.

Distillation



**Gino Quackels** • 2nd

Company Owner bij 2Bieau

1w \*\*\*

Ecoclearprox, a 100% biodegradable hydrogen peroxide. Pt5 approved in European countries.



**David Ryall MCIPHE RP** • 2nd

Chemist Technician

1w \*\*\*

I think it depends on the system, as previously chlorinated a 300L water heater to hell with returning LP results..three Pasteurisations and three chlorinations later....found the best practice was to descale,neutralise,flush chlorinate, neutralise and finally disinfect via silver hydrogen peroxide (no LP returns)



**Jim Huchel** • 1st

Wastewater Manager

1w \*\*\*

I agree with Ryan, all of the listed have issues. UV, O3 have issues of there own. When properly utilized chlorine is safe and effective.



**Craig Byers** • 1st  
Waste Water Treatment Plant Supervisor/Lab Tech Level 3 at Village of L...  
UV



**Russ Elmore** • 2nd 5d \*\*\*  
Business Owner & Water Treatment Specialist

I agree with Tony. It depends on the application. pH can have big affect on efficacy for some of these molecules as do other contaminants (side reactions), Materials of Construction for compatibility is also a big consideration. Disinfection byproducts can be an issue for some of these and if regulated downstream that is a huge consideration. Depending on your application you may like one over another. Ammonia present, higher pH; pure CLO<sub>2</sub>. Drinking water, especially packaged/bottled: Ozone. Disinfection of a high purity loop, peroxide or ozone (or peroxyacetic acid) depending on MOCs. Municipal preoxidation; pure CLO<sub>2</sub>, and closed loop cooling; pure CLO<sub>2</sub>. Anytime you have significant head space or dead legs, CLO<sub>2</sub> or ozone depending on MOC (because they are gaseous). UV as a secondary in any circulating loop or right at dispense with a primary oxidizing biocide is fine. Chlorine gas or Hypo if you can't afford better disinfection and OK is good enough ;-). After years of evaluating applications, Chlorine wins the day many times because it is good enough and cheap. Not sure I always agreed, particularly in heat transfer applications where biofilms are left behind or where Legionella is a risk.



**Gentry Fugate** • 1st  
Project Manager at Recon Management Services INC  
O<sub>3</sub>



**Sanam Sattar** • 1st  
QA/QC LAB Technician and RO at Happy Water Purification Mai aldhafra  
Ozone



**Stephan Jakobs** • 1st 1w \*\*\*  
Head of Sales (Hygiene Concepts) & Senior Consultant (Green Water Re...

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**James Hunnicutt** • 1st

Groundwater Facilities Manager at Cape Fear Public Utility Authority

1w \*\*\*

It depends on the application and location. Chlorine gas in wells and Hypo in a plant!



**MIR ALI** • 1st

Water Resource Control Engineer

UV



**Megdame Ibrahim** • 2nd

Research &Development في APMD - Arabian Products Factory for Medi...

2d \*\*\*

Depend On Location and Disinfection evaluation bactericidal Fungicidal Viricidal

Cidal of disinfection the important Advantage of Disinfection