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# **Water Treatment Regulatory Terms and Definitions**

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# SDS Sheets

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New Sheets Must be in Place June 1, 2015

Will you be ready?



**June 2015** 

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

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# OSHA Terms

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## OSHA PEL

- May be TWA or ceiling limit

## TLV – TWA

- Allowable TWA concentration for normal 40 hour week

## TLV – STEL

- Maximum concentration for 15 minute exposure
- Only 4 – 15-minute periods per day
- 60 minutes between periods

## TLV – C

- Ceiling exposure limit
- Maximum concentration that can not be exceeded

## Skin

- Skin, mucous membranes, eyes
- Air exposure or direct contact

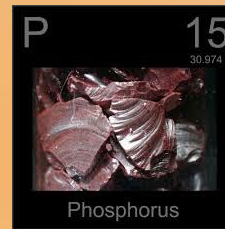
# Pollutants of Concern

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Mercury



Phosphorus — Toledo Water Department



Selenium



# Pollutants of Concern

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## Biotoxicity Compliance

- Fat Heads — *Pimephales Promelas*
- Water Flea — *Ceriodaphnia Dubia*



# Pollutants that Can Cause Biotoxicity Issues

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RCRA Metals

Dissolved Oxygen Levels

BOD

COD

Chlorides and Sulfates

pH

# Terms & Definitions

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pH

NOV

Alkalinity

Coagulation

Normality

Flocculation

Buffering

ORP

NPDES

Oxidization

40 CFR 503

Reduction Reactions



# Regulations

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## U.S. E.P.A.

### State Regulations

#### Clean Water Act

POTW Pretreatment Regulations  
NPDES Regulations  
Federal Drinking Water  
Standards  
ANSI/NSF  
Safe Drinking Water Act

#### Clean Air Act

NESHAP  
Title V

### Local Regulations

#### Sludge Regulations

40 CFR 503  
RCRA  
Class 1 Biosolids Regulations



\*Federal Standards can not be exceeded.

\*Local and State regulators have authority to amend regulations that would deliver limits lower than Federal Standards.



# Indiana town facing high nitrate levels in its well water

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**BY:** The Associated Press

**POSTED:** 7:54 AM, Mar 6, 2015

**UPDATED:** 8:09 AM, Mar 6, 2015

**TAG:** southwest Indiana (/topic/southwest+Indiana)

OWENSVILLE, Ind. — A southwestern Indiana town's water supervisor is urging local officials to take action to combat high levels of a potentially dangerous chemical compound in the community's water supply.

The Princeton Daily Clarion reports Owensville Water operator Randy Ross told the town council Tuesday the town's well water nitrate levels are averaging 8.4 milligrams per liter.

Nitrate levels above 10 milligrams per liter can sicken or kill infants younger than 6 months by reducing oxygen levels in their blood.

Ross told council members the town's best option is to add a water filtration system to remove some of the nitrate.

Council President Daniel Kautzman says he doesn't think the town about 20 miles northwest of Evansville can afford such a system, but it's time to explore the idea.

This story was shared by the Associated Press from the Princeton Daily Clarion

# Hundreds of dead fish becoming a daily event near Geist Reservoir

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INDIANAPOLIS (WISH) — Some people living in the Geist Reservoir neighborhood are concerned after seeing dozens of dead fish popping up along the shore.

One neighbor says the problem started after the ice melted away. She says she comes across dead fish every winter but this year, it's been ten times worse.

"It's pretty disgusting," said Teresa Williams, concerned resident. "A lot of them are kind of bloody at the gills."

Teresa Williams has lived in the Bridge Water neighborhood for about 11 years. For the past week she says she's been waking up to an unpleasant sight in her backyard.

"I've been picking up dead fish everyday, most days over 100 fish a day," said Williams. "I think last year, I picked up 40 or 50 and the year before that similar amounts I always kind of count."

The mother of three says she's been picking up the fish and tossing them out so that her dogs won't get to them.

"We all have those big republic trash bins and I have two of them and I filled them both to the top with dead fish. In fact they were so heavy it was hard to pull them down the drive way," said Williams.

But Geist Lake Coalition, a group addressing concerns of homeowners along the waterfront says there's nothing to worry about.

They say the dead fish washing up are called shad. The fragile fish are more sensitive to cold water and lower oxygen levels than other species in the lake. The coalition posted an update to Facebook alerting residents of the fish kill.

"If a lot of fish other than shad start showing up dead, then we may want to be concerned. That said there are reports of a small bass die-off in a very limited amount," said Brian Hall, founding director.

"Every summer there's always a concern about so much toxic algae in the lake," said Williams. "I just wonder if the amount of dead fish kill this year maybe had anything to do with that left over from the summer."

Citizens Energy is the company in charge of Geist Reservoir.

A spokesperson tells 24-Hour News 8 it's been a problem in the past with the algae because of the fertilization. She says there are many houses along the lake that some of the chemicals can get into the water.

The company says they have treated the reservoir in the past, but it's all been safe and causes no harm to the fish and wildlife.

Citizens Energy is planning to hire a contractor to come out to the neighborhood to clean up the mess sometime next week.

# Asian Carp

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# What is Water?

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**Water Either Corrodes or  
Forms a Barrier Film**

# Specifications of Water

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Well or Surface Water

City water — meets all AWWA Standards

Soft Water

Reverse Osmosis Water

De Ionized Water

Distilled Water`

# Specifications of Water

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Corrosion

Alkalinity

Conductivity

Total Dissolved Solids

Hardness

# Considerations

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What is Silt Density Index?

Chlorine and Reverse Osmosis Systems

Chelator Package in Detergents

Nephelometric Turbidity Unit



# Questions?

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