

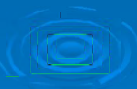
Testing for Metals in Water



By Ivars Jaunakais / Industrial Test Systems, Inc.
Thursday, March 11th WQA 2010
2:00 – 2:25 pm

Water

- It's the most important natural resource in our environment
- Not pure - contains microorganisms and dissolved minerals which need to be controlled so water can be used safely



Testing for Metals

- Most reliable method for testing is laboratory analysis by instrumentation but cost per test very expensive (over \$20) and must allow for a delay in results
- Hazardous reagents in field kits and complicated test procedure may include extraction step
- Field kits don't meet EPA detection requirement of 15 $\mu\text{g/L}$

How Metal gets into Water

- Leaching from Pipes
- Leaching from Pipe fittings
- Leaching from Pipe solder



SenSafe™ Water Metals Check

#480309

- Excellent for field testing metals in water
- Easy and Safe
- Results in under 3 minutes
- Inexpensive way to increase RO sales



Benefits of SenSafe™ Water Metals Check

#480309

- Regular Tap water reads 20 ppb or above for metals
- Filtered, RO and Bottled water confirms <10 ppb
- Requires no external chemicals or specialized training



Test Method of SenSafe Water Metals Check

#480309

- Dip the strip for 30 seconds in sample
- Wait two minutes
- Match color on the end of the strip to the color chart provided on the bottle



SenSafe™ Water Metals Check

#480309


➤ Each strip tests for:

- Cadmium
- Cobalt
- Copper
- Iron
- Lead
- Mercury
- Nickel
- Zinc



SenSafe SenSafe™ Water Metals Check Label

#480309

 09762 80309 2

SenSafe™

Water Metals Check

Semiquantitative contamination check for Heavy Metals in water (Cu⁺², Co⁺², Zn⁺², Cd⁺², Ni⁺², Hg⁺² etc...).

Part Number 480309 **Contains 50 Test Strips**








USE BY DATE ON CAP

NOTE: For better color matching view the aperture against a white surface. A suggestion is to fold the white plastic handle of the test strip under the aperture so that it produces a white viewing background (blocks all distractions from behind).

*For Technical Assistance, Call: 1-803-329-0162
www.sensafe.com*

Test Procedure:
Dip one (1) test strip into a **20 ml** sample for **30 seconds** with constant, gentle back-and-forth motion. Remove and shake strip once, briskly, to remove excess water. **Wait 2 minutes** and match with the closest color on the color chart. Complete the color matching **within 30 seconds**.

Color Chart:

						
ppb (µg/L) <10	20	50	100	200	400	1000

Color development may vary depending on metals being detected.

NOTE: This test indicates the presence of heavy metals. The color chart was calibrated in a mixed metals solution. In the presence of one specific metal, or a high concentration of a specific metal, colors such as purple, red, or brown may appear. In this situation, matching levels based on color intensity may be necessary to reach semiquantitative results.

Store in a cool, dry place away from excess heat (below 90°F).
SENSAFE™ is a trademark of Industrial Test Systems, Inc., Rock Hill, SC USA

MADE IN THE USA

R028A-WMC US Patent # 5620658 © 2008 Industrial Test Systems, Inc.

Benefits of SenSafe™ Water Metals Check

#480309

➤ Accuracy

- No chemicals to mix and no instrumentation to calibrate, SenSafe™ Water Metals Check minimizes user error



Benefits of SenSafe™ Water Metals Check

#480309

➤ Ease

- Professional accuracy for non-technical user with no special training needed



Benefits of SenSafe™ Water Metals Check

#480309

➤ Time

- No set up is required so results are available in a fraction of the time required by other methods



Benefits of SenSafe™ Water Metals Check

#480309

➤ Safety

- SenSafe™ Water Metals Check is classified by OSHA to be non-hazardous because of the small amount of chemicals involved



Benefits of SenSafe™ Water Metals Check

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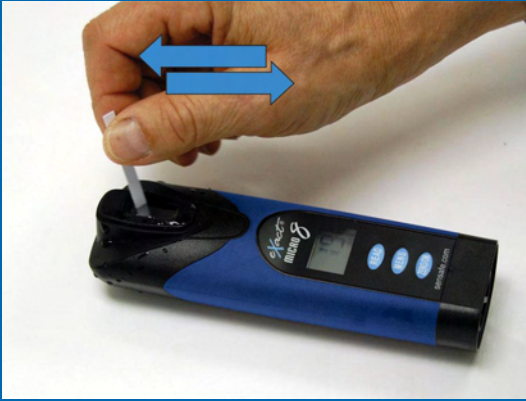
➤ Transport

- Small and portable - makes it ideal for field testing



To achieve good test results

1. Test range is acceptable
2. Test is appropriate for the staff technical ability
3. Test is robust; reagents are reliable & stable
4. Test gives meaningful results
5. Test is accurate when staff performs the test correctly



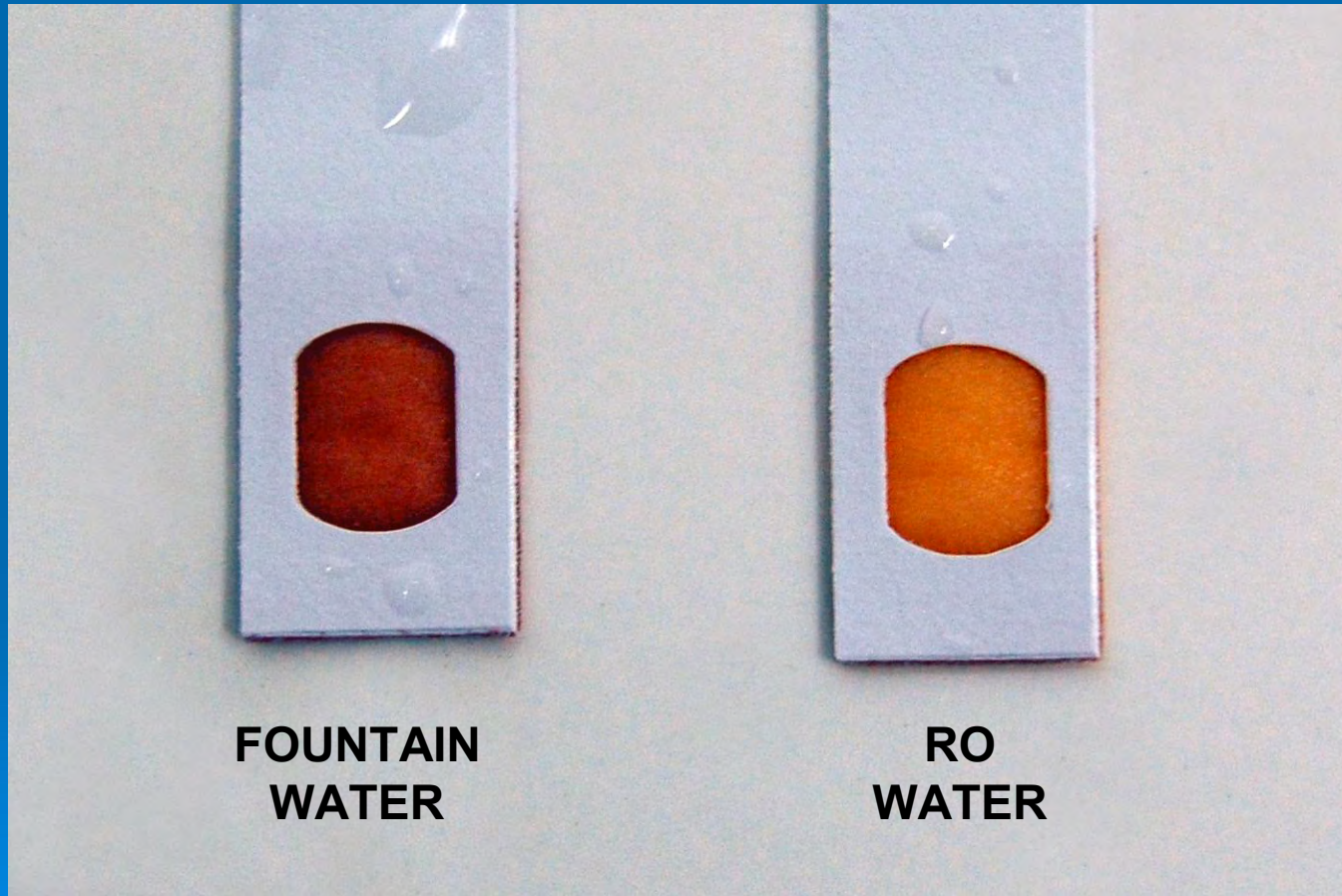
TEST KIT PERFORMANCE IN A LAB

- Analysis will provide good results in a Laboratory setting
- A lab is a controlled environment where Reagent stability is assured
- Recalibration of test kit reagents or kit performance can be easily confirmed

TEST KIT ON-SITE PERFORMANCE (Challenges)

- Test kits and instruments on-site operate under different environmental conditions
- Customer home or business can have a great deal of affect on results and operator
- Distractions like noise and activity
- For some tests (especially Liquid reagents) stability is affected by elevated Temperature in transport vehicle
- On-site precise results are a challenge
- Easy, non-technical procedures are desirable

ORLANDO FOUNTAIN WATER VS. RO WATER





Questions?

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