

AROMA SCREEN FOR SULFUR OFF-ODORS

p. 428, Zoecklein et al. 1995

- Equipment:**
- 4 clean wine glasses
 - 4 watch glasses to cover glasses
 - Pasteur pipette or dropper
- Reagents:**
- 200 mL wine sample; room temperature
 - Copper (II) sulfate, 1% wt/vol (1g CuSO₄·5H₂O in 100mL 10% ethanol)
 - Cadmium (II) sulfate, 1% wt/vol (1g CdSO₄·8H₂O in 100mL 10% ethanol)
 - Ascorbic acid, 10% wt/vol (10g ascorbic acid in 100mL 10% ethanol)

Notes:

- DO NOT taste samples; SMELL ONLY.
- Cadmium is TOXIC, and is not an allowable wine additive or processing aid. It should only be used for diagnostic testing of aromas.

Procedure:

1. Fill four glasses with 50 mL wine to be evaluated
2. Mark glass 1 as control; cover with watch glass.
3. Mark glass 2 as copper, and add 1 mL of copper sulfate solution. Cover with watch glass.
4. Mark glass 3 as cadmium; add 1 mL of cadmium sulfate solution and cover with watch glass.
5. Mark glass 4 as ascorbic acid + copper, and add 0.5 mL of ascorbic acid solution, wait two minutes, then add 1 mL of copper sulfate solution.
6. Mix each glass thoroughly.
7. Smell the control sample, noting presence of odors. Repeat with glasses 2, 3, and 4.
8. Interpret results with reference table, below.

| Glass 1: Control | Glass 2: Copper | Glass 3: Cadmium | Glass 4: Ascorbic acid + Copper | Sulfur compounds present |
|-------------------------------------|----------------------------|-----------------------------|--|---|
| Presence of offensive odor | Odor is gone | Odor is gone | Odor is gone | H ₂ S |
| | Odor is gone | No change | Odor is gone | Mercaptans |
| | Odor is gone | Odor is lessened | Odor is gone | H ₂ S & Mercaptans |
| | No change | No change | Odor is gone | Disulfides |
| | No change | No change | No change | Dimethyl sulfide |