

# Communications

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## Brief technical articles, comments on prior articles and book reviews

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Comment on:

### **Composite Colored Stars**, Issue 8.

Scot Anderson's article states that "The calcium [impurity that interferes with flame color] may be present as a trace element in the water used during processing". (p 25, "Green" section) That is certainly possible, though I rather doubt it. Another potential source is the addition of "TCP"—tricalcium phosphate—also known as "anti-cake"—to the ammonium perchlorate (AP).

Two specific Kerr-McGee 200 micron rotary round AP lots from 1992 (without TCP) and 1993 (with TCP) had the following analysis (certificates of analysis from the manufacturer):

	1993	1992
NH <sub>4</sub> ClO <sub>4</sub>	99.8	99.2
NH <sub>4</sub> Cl	0.005	0.009
NH <sub>4</sub> ClO <sub>3</sub>	0.005	0.002
Moisture (total)	0.033	0.025
Moisture (surface)	0.011	0.002
TCP	0.17	none

The TCP is more than a "trace" amount; quite possibly a significant contributor to the observations when one considers the inherent intensity of calcium spectra.

The article is indeed very interesting and informative—I enjoyed it very much!

Will Meyerriecks  
702 Leisure Avenue  
Tampa, FL 33613-1835  
USA

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