

## Trace Metals Analytical Results

Requestor: Greg Allen  
 Company : TARR, LLC.  
 Chemical : Isopropanol  
 Sample Receipt: 9/16/2005  
 Report Date: 9/20/2005  
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WO# CTN9576  
 PO# 22131

		Concentration in ppb	
		Detection	IPA
		Limits	Batch# 272
		(ppb)	Drum# 12, 20, 37, 45
			9/16/2005
1. Aluminum	(Al)	0.05	<0.05
2. Antimony	(Sb)	0.01	<0.01
3. Arsenic	(As)	0.02	0.049
4. Barium	(Ba)	0.005	<0.005
5. Beryllium	(Be)	0.01	<0.01
6. Bismuth	(Bi)	0.01	<0.01
7. Boron	(B )	0.1	<0.1
8. Cadmium	(Cd)	0.005	<0.005
9. Calcium*	(Ca)	0.05	<0.05
10. Chromium	(Cr)	0.01	<0.01
11. Cobalt	(Co)	0.02	<0.02
12. Copper	(Cu)	0.01	<0.01
13. Gallium	(Ga)	0.005	<0.005
14. Germanium	(Ge)	0.01	<0.01
15. Gold	(Au)	0.05	<0.05
16. Iron*	(Fe)	0.02	<0.02
17. Lead	(Pb)	0.01	<0.01
18. Lithium	(Li)	0.01	<0.01
19. Magnesium	(Mg)	0.01	<0.01
20. Manganese	(Mn)	0.01	<0.01
21. Molybdenum	(Mo)	0.01	<0.01
22. Nickel	(Ni)	0.02	<0.02
23. Niobium	(Nb)	0.01	<0.01
24. Potassium*	(K )	0.02	<0.02
25. Silver	(Ag)	0.01	<0.01
26. Sodium	(Na)	0.02	<0.02
27. Strontium	(Sr)	0.01	<0.01
28. Tantalum	(Ta)	0.01	<0.01
29. Thallium	(Tl)	0.01	<0.01
30. Tin	(Sn)	0.01	<0.01
31. Titanium	(Ti)	0.01	<0.01
32. Vanadium	(V )	0.02	<0.02
33. Zinc	(Zn)	0.01	<0.01
34. Zirconium	(Zr)	0.01	<0.01

\* Ca, Fe, and K were analyzed by GFAA or cold plasma ICP-MS.  
 All the other elements were analyzed by ICP-MS.

Quality Controlled by Mahabub Rahman, Ph. D.  
 Technical Manager

## Chemical Analytical Results

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PO# 22131

**IPA**  
**Batch# 272**  
**Drum# 23**  
**9/13/2005**

Moisture as (H<sub>2</sub>O) 0.026% wt

Notes:

1. The concentrations of water (moisture) are determined with coulometric (Karl Fisher) titration.
2. The replicate RPD of each sample must be within  $\pm 10\%$  from the average value.
3. The samples were analyzed as received.

## On Line Particle Analysis by Laser Particle Counting

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PO# 22131

### Number of Particles/mL

IPA

Batch# 272

Drum# 23

9/13/2005

### Particle Size

≥ 0.2 μm	160
≥ 0.3 μm	37
≥ 0.5 μm	7
≥ 1.0 μm	2
≥ 2.0 μm	0