

Method Abstract

Summary: Reducing sugars include those with terminal aldehydes, α -hydroxy ketones, and hemiacetal. These compounds are oxidized to acids by various oxidizing agents. Wine samples are mixed with a cupric-neocuproine reagent and heated to 88°C. A colored complex is formed in the presence of reducing sugars and is colorimetrically measured at 460 nm.

Interferences: Proteins and colored compounds (polyphenols) that could interfere are removed via dialysis. All reducing compounds in the wine will be measured by this method (sulfites, ascorbic acid, etc.). The concentration of these compounds is significantly lower than the reducing sugars. Therefore, they do not present a significant level of interference.

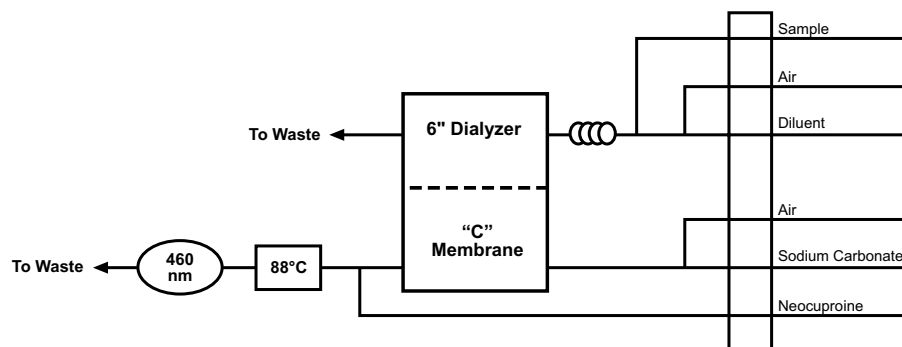
Performance Specifications:

Range:	0.15–10 g/L reducing sugars (glucose + fructose)
	1.0–200 g/L reducing sugars (using optional second dialyzer)
Throughput:	60 samples/hour
Precision:	
1.0 mg/L	<3% RSD
10 mg/L	<2% RSD
Method Detection Limit (MDL):	Not determined

Chemicals:

Brij®-35, 30% w/v (OI Analytical Part # A21-0110-33)	Glucose, $C_6H_{12}O_6$
Copper Sulfate Pentahydrate, $CuSO_4 \cdot 5H_2O$	Neocuproine Hydrochloride Hydrate, $C_{14}H_{12}N_2 \cdot HCl \cdot H_2O$
Fructose, $C_6H_{12}O_6$	Sodium Carbonate, Na_2CO_3

Basic Flow Diagram:



Selected References: Porter, D.G.; Sawyer, R. *Analyst*, **1972**, 97, 569–575.

Blouin, Jacques. *Techniques d'Analyses des Mouts et des Vins*, Dujardin-Salleron, 2, rue de la Durance, 75012 Paris, France, p 161–162, Method E8.

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