

## Discrete Industrial Analyzer System Reagents for Food and Other Sample Materials

Analyte	Code	Product name	Max. nbr. of tests/kit <sup>(1)</sup>	Method	Sample matrix	Interference filter nm <sup>(2)</sup>	Test ranges	Unit
Acetaldehyde	984347	Acetaldehyde	250	Enzymatic test with acetaldehyde dehydrogenase	Food & beverage	340 / -	2-500	mg/L
	984396 <sup>(3)</sup>	Acetaldehyde standard, 100 mg/L	-					
Acetic acid	984318	Acetic Acid	300	Enzymatic test with acetate kinase	Food & Beverage	340 / -	0.04-3.00	g/L
	984303 <sup>(4)</sup>	Acetic acid	1000					
	984356	Acetic Acid (ACS)	150	Enzymatic test with acetyl-coenzyme A synthetase (ACS)	Food & Beverage	340 / -	0.04-3.00	g/L
Alpha-Amino Nitrogen	984342	Alpha-Amino Nitrogen (NOPA)	300	Colorimetric test with OPA (o-Phthaldialdehyde) and NAC (N-acetylcysteine)	Food & Beverage	340 / 700 (750)	20-300	mg/L
	984394 <sup>(3)</sup>	NOPA Standard, 150 mg/L	-					
Alpha-Amylase	984329	Alpha-Amylase	780	Enzymatic test with ethylidene-pNP-G7 (E-pNP-G7) as the substrate	Enzyme, detergent	405 / -	10-24000	U/l
Ammonia	984320	Ammonia	300	Enzymatic test with glutamate dehydrogenase	Food & Beverage	340 / -	10-420	mg/L
	984766 <sup>(4)</sup>	Ammonia	1000					
L-Ascorbic acid	984635	L-Ascorbic acid	250	Colorimetric test with the tetrazolium salt MTT	Food & Beverage	575 / -	50-2500	mg/L
L-Asparagine	984319 <sup>(5)</sup>	L-Asparagine/L-Aspartic-Acid	350	Enzymatic test with malate hydrogenase and L-asparaginase	Food & Beverage	340 / -	20-500	mg/L
	981842	Washfluid	-					

L-Aspartic Acid	984319 <sup>(5)</sup>	L-Asparagine/L-Aspartic-Acid	350	Enzymatic test with malate hydrogenase	Food & Beverage	340 / -	20-500	mg/L
Bitterness <sup>(6)</sup>	984353	BC System liquid	360	Column extraction of bittering components from beer and wort and subsequent photometric determination	Beer, Wort	275 / -	5-100	BU
	984354	BC Diluent						
	984355	BC Eluent						
Calcium	984361	Calcium (Ca)	350	Colorimetric test with Arsenazo III	Food & Beverage	660 / -	10-200	mg/L
Citric Acid	984327	Citric acid	250	Enzymatic test with citrate lyase	Food & Beverage	340 / -	15-5000	mg/L
Cholesterol	984324	Cholesterol Food	300	Enzymatic test with cholesterol oxidase, peroxidase and with colorimetric indicator chinonimin	Food & Beverage	540 / -	20-1000	mg/L
	984391 <sup>(3)</sup>	Cholesterol Food Std, 2000 mg/L	-					
Copper	984628	Copper	300	Colorimetric test with DiBr-PAESA	Food & Beverage	600 / -	0.05-3.5	mg/L
	984385 <sup>(3)</sup>	Copper Standard, 5 mg/L	-					
	981842	Washfluid	-					
Ethanol	984300	Ethanol	300	Enzymatic test with alcohol-dehydrogenase	Food & Beverage	340 / -	0.01-10	g/L
	984384 <sup>(3)</sup>	Alcohol Standard. 0.5 g/L						
D-Fructose	984302	D-Fructose	300	Enzymatic test with hexokinase, phosphoglucose isomerase and glucose-6-phosphate dehydrogenase	Food & Beverage	340 / 600	0.7-200	g/L
	984380 <sup>(3)</sup>	Sugar Combination Std, 0.500 g/L	-					
(1,3/1,4)-Beta-Glucan	984305	Beta-Glucan (High MW)	350	Novel colorimetric test	Food & Beverage	405 / 600	15-500	mg/L
	984383 <sup>(3)</sup>	Beta-Glucan Standard, 500 mg/L	-					
D-Gluconic Acid	984710	D-Gluconic Acid	250	Enzymatic test with 6-P-gluconate-dehydrogenase and gluconate kinase	Food & Beverage	340 / 750 (700)	50-5000	mg/L

D-Glucose	984304	D-Glucose	300	Enzymatic test with hexokinase and glucose-6-phosphate dehydrogenase	Food & Beverage	340 / 600	0.1-160	g/L
	984764 <sup>(4)</sup>	D-Glucose	1000					
	984380 <sup>(3)</sup>	Sugar Combination Std, 0.500 g/L	-					
D-Glucose & D-Fructose	984314	D-Glucose+D-Fructose	300	Enzymatic test with hexokinase, phosphoglucose isomerase and glucose-6-phosphate dehydrogenase	Food & Beverage	340 / 600	0.04-200	g/L
	984313 <sup>(4)</sup>	D-Glucose+D-Fructose	1000					
	984380 <sup>(3)</sup>	Sugar Combination Std, 1.0 g/L	-					
D-Glucose & D-Fructose & Sucrose	984317	D-Glucose+D-Fructose+Sucrose	300	Enzymatic test with beta-fructosidase (Invertase), hexokinase, phosphoglucose isomerase and glucose-6-phosphate dehydrogenase	Food & Beverage	340 / 600	0.24-200	g/L
	984301 <sup>(4)</sup>	D-Glucose+D-Fructose+Sucrose	1000					
	984380 <sup>(3)</sup>	Sugar Combination Std, 1.5 g/L	-					
Glycerol	984316	Glycerol	300	Enzymatic test with glycerokinase, ADP dependent hexokinase and glucose-6-phosphate-dehydrogenase	Food & Beverage	340 / -	0.07-30	g/L
	984765 <sup>(4)</sup>	Glycerol	1000					
	984386 <sup>(3)</sup>	Glycerol Standard, 0.2 g/L	-					
L-Glutamic Acid	984636 <sup>(5)</sup>	L-Glutamic Acid	300	Enzymatic test with glutamate dehydrogenase	Food & Beverage	492 / -	0.01-6	g/L
Beta-Hydroxybutyric Acid	984325	β- Hydroxybutyrate	300	Enzymatic test with D-3-hydroxybutyric-dehydrogenase and nitrotetrazolium blue	Food & Beverage	540 / -	10-350	mg/L
	984392 <sup>(3)</sup>	β- Hydroxybutyrate Std, 100 mg/L						
Iron	984326	Total Iron (Fe)	850	Colorimetric test with Ferene S	Food & Beverage	600 / -	0.03-5.5	mg/L
D-Isocitric acid	984322	D-Isocitric Acid	300	Enzymatic test with isocitrate-dehydrogenase	Food & Beverage	340 / -	10-600	mg/L
D-Lactic Acid	984306	D-Lactic Acid	300	Enzymatic test with D-lactate-dehydrogenase	Food & Beverage	340 / -	25-1600	mg/L
	984382 <sup>(3)</sup>	Acid Combination Std, 200 mg/L	-					
L-Lactic Acid	984308	L-Lactic Acid	300	Enzymatic test with L-lactate-dehydrogenase	Food & Beverage	340 / -	20-1600	mg/L
	984382 <sup>(3)</sup>	Acid Combination Std, 200 mg/L	-					

Lactose	984323	Lactose (Glucose) <sup>(8)</sup>	300	Enzymatic test with galactosidase (Lactase), hexokinase and glucose-6-phosphate dehydrogenase	Food & Beverage	340 / -	0.05-15	g/L
	984767 <sup>(4)</sup>	Lactose (Glucose) <sup>(8)</sup>	1000					
	984390 <sup>(3)</sup>	Lactose Standard, 1.00 g/L	-					
Lipase	984315	Lipase	500	Colorimetric test with methylresorufin	Enzyme, detergent	575 / -	up to 60	mg/100 g
Magnesium	984358	Magnesium (Mg)	350	Colorimetric test with Xylidyl Blue I	Food & Beverage	510 / -	10-400	mg/L
L-Malic Acid	984310	L-Malic Acid	300	Enzymatic test with L-malate-dehydrogenase and glutamate-oxalacetate-transaminase	Food & Beverage	340 / 700 (750)	0.05-20	g/L
	984311 <sup>(4)</sup>	L-Malic Acid	1000					
	984382 <sup>(3)</sup>	Acid Combination Std, 0.500 g/L	-					
Oxalic Acid	984348	Oxalic Acid	250	Enzymatic test with oxalate oxidase	Food & Beverage	600 / 700	2-100	mg/L
	984393 <sup>(3)</sup>	Oxalic Acid Standard, 45 mg/L	-					
pH	984349	pH (Colorimetric)	330	Colorimetric test with pH indicator dyes	Beer, Wort	575 / 700	2-7.2	pH at 37 °C
	984331 <sup>(3)</sup>	ECM pH 4 Standard	-					
	984332 <sup>(3)</sup>	ECM pH 7 Standard	-					
Polyphenols	984346	Total Polyphenol	280	Colorimetric test with Folin-Ciocalteu reagent	Food & Beverage	700 / -	50-3000	mg/L as Gallic acid
Potassium	984307	Potassium	300	Turbidimetric test with tetraphenylborate	Food & Beverage	540 / -	50-2500	mg/L
Proteins	984328	Total Protein (Biuret)	450	Colorimetric test with Biuret	Food & Beverage	540 / 700	0.5-15	g/L
Sulfur dioxide	984634	SO2 Free	430	Colorimetric test with pararosaniline	Food & Beverage	575 / 750 (700)	2-150	mg/L
	984345	SO2 Total	300	Colorimetric test with DTNB				
Sucrose	984312	Sucrose (Total Glucose) <sup>(8)</sup>	300	Enzymatic test with beta-fructosidase, hexokinase and glucose-6-phosphate dehydrogenase	Food & Beverage	340 / 600	0.1-100	g/L
	984380 <sup>(3)</sup>	Sugar Combination Std, 0.75 g/L	-					

Tartaric Acid	984309	Tartaric acid <sup>(5)</sup>	480	Colorimetric test with ammonium monovanadate	Food & Beverage	540 / -	0.5-12	g/L
Total Acids	984632	Total Acids (Wine pH 7)	400	Colorimetric tests with bromothymol blue	Food & Beverage	620 / 700 (750)	1-18	g/L as Tartaric acid
	984633	Total Acids (Juice pH 8)	400				0.5-12	g/L as Sulfuric acid
Urea	984321	Urea (Ammonia) <sup>(9)</sup>	300	Enzymatic test with urease and glutamate dehydrogenase	Food & Beverage	340 / -	10-720	mg/L
	984388 <sup>(3)</sup>	Urea Standard	-					

**NOTE:**

1. Number of tests/ kit is test flow dependent number.
2.  $\lambda_1/\lambda_2$  (main/side wavelength in nm), alternative wavelength provided in brackets ( $\lambda$ )
3. Standard solution for method calibration, concentrations are Lot dependent
4. Arena kits only
5. Kit contains a standard solution for calibration
6. Method available for the Gallery Plus Beermaster with BCM analyzer only
7. Separate low range application available
8. D-Glucose result is needed for Sucrose and Lactose calculation from assayed Glucose
9. Ammonia result is needed for Urea calculation from assayed Ammonia

**NIST traceable standards for ECM measurements**

Parameter	Code	Product name	Kit size
pH	984330	ECM pH 2 Standard	2 x 60 mL
	984331	ECM pH 4 Standard	2 x 60 mL
	984332	ECM pH 7 Standard	2 x 60 mL
	984333	ECM pH 10 Standard	2 x 60 mL
	984334	ECM pH 12 Standard	2 x 60 mL
Conductivity (mS/cm)	984339	ECM Conductivity 0.08 Standard	2 x 60 mL
	984336	ECM Conductivity 1.4 Standard	2 x 60 mL
	984337	ECM Conductivity 13 Standard	2 x 60 mL
	984338	ECM Conductivity 112 Standard	2 x 60 mL

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