



# Hydranal® Reagents

## 800-877-3225

### ONE COMPONENT VOLUMETRIC REAGENTS

Hydranal® Composites contain all the reactants (iodine, sulphur dioxide and imidazole) dissolved in diethyleneglycolmonomethyl ether (DEGEE). The loss of titre is less than 10% per year.

Volumetric reagents have a two-year minimum shelf life for an unopened bottle.

#### COMPOSITE REAGENTS

##### HYDRANAL® Composite 1

<b>#34827</b>	500 ml	60.14
One Component reagent	6x500ml	313.60
1ml = approx 0.7-1.0 mg H <sub>2</sub> O	1 L	94.79
	6x1L	495.50

##### HYDRANAL® Composite 2

<b>#34806</b>	500 ml	60.14
One Component reagent	6x500 ml	313.60
1ml = approx. 2 mg H <sub>2</sub> O	1 L	94.79
	6x1L	480.39
	2.5 L	205.65
	4x2.5L	713.56

##### HYDRANAL® Composite 5

<b>#34805</b>	500 ml	60.14
General one component reagent	6x500ml	313.60
1 ml = approx 5 mg H <sub>2</sub> O	1 L	94.79
	6x1L	495.50
	2.5L	205.65
	4x2.5L	713.56

##### HYDRANAL® Solver (Crude Oil)

<b>#34697</b>	1 L	91.65
Working medium containing xylene and chloroform for water determination of oils	6x1 L	477.69
	2.5 L	202.41
	4x2.5L	700.61

#### SPECIALTY REAGENTS FOR ALDEHYDES & KETONES

##### HYDRANAL® Composite 5K

<b>#34816</b>	500 ml	80.87
Titrant for water determination in ketones and aldehydes (1ml = approx 5 mg H <sub>2</sub> O)	6x500 ml	422.09
	1 L	130.63
	6x1L	686.57
	2.5L	289.86
	4x2.5L	1005.04

##### HYDRANAL® Keto Solver

<b>#34738</b>	500 ml	63.37
Solvent component for water determination in aldehydes & ketones. Suppresses side reactions that generate water or consume titrant. Contains no halogenated compounds.	6x500 ml	301.73
	1 L	92.83
	6x1L	483.62

### WORKING MEDIUM SOLVENTS TO BE USED WITH HYDRANAL COMPOSITES

##### HYDRANAL® Liposolver CM

<b>#37855</b>	1 L	71.47
For water determination in non-polar substances like fats & oils. Contains chloroform and methanol.	6x1L	365.42

##### HYDRANAL® Liposolver MH

<b>#37856</b>	1 L	80.11
For water determinations in non-polar substances like fats & oils. Contains methanol and hexane.	6x1L	365.42

##### HYDRANAL® Methanol Dry

<b>#34741</b>	1 L	33.25
A custom made solvent for KF titration with a maximum water content of 100 ppm - 0.01%	6x1L	156.00
	2.5L	62.18
	4x2.5L	192.69

##### HYDRANAL® Methanol Rapid

<b>#37817</b>	1 L	38.75
Working medium containing accelerators for the determination of H <sub>2</sub> O with shorter titration times.	6x1L	203.49
	2.5 L	85.50
	4x2.5L	298.48

##### HYDRANAL® Working Medium

<b>#34817</b>	1 L	99.54
Solvent system which contains chloroethanol and chloroform. For the determination of water in aldehydes and ketones.	4x1L	347.07

##### HYDRANAL® Medium K

<b>#34698</b>	1 L	98.77
Working Media used for volumetric KF titration in ketones & aldehydes to be used with Hydranal® Composite 5K.	6x1 L	489.57

##### HYDRANAL® Composolver E

<b>#34734</b>	1 L	57.00
An ethanol-based working medium formulated for use with the standard one-component Hydranal® Composites. It permits a methanol-free analysis using a single component reagent.	6x1L	298.48
	2.5 L	117.68
	4x2.5L	410.22

## TWO COMPONENT VOLUMETRIC REAGENTS

With two component reagents, the reactants are in separate bottles. The titrant is a solution of iodine and alcohol. The solvent solution contains the sulphur dioxide and imidazole in a specific alcohol. The reagents remain stable and unchanged for a minimum of two years as long as the bottles remain unopened.

### TITRANTS

<b>HYDRANAL® Titrant 2</b>	500 ml	41.56
<b>#34811 DEA</b>	6x500 ml	217.53
One ml is equivalent to	1 L	73.08
2ml ± 0.01 mg H <sub>2</sub> O	6x1 L	381.07

<b>HYDRANAL® Titrant 5</b>	500 ml	41.56
<b>#34801 DEA</b>	6x500 ml	217.53
One ml is equivalent to	1 L	78.59
5.00 ± 0.02 mg H <sub>2</sub> O	6x1L	411.30
	2.5 L	158.70
	4x2.5L	551.64

### SOLVENTS

<b>HYDRANAL® Solvent S</b>	1 L	72.43
<b>#34800</b>	6x1 L	376.75
A methanol based standard solvent for volumetric KF applications	2.5 L	150.06
	4x2.5 L	520.87

<b>HYDRANAL® Solvent CM</b>	1 l	91.56
<b>#34812</b>	6x 1 L	477.69
Solvent component containing methanol and chloroform for the determination of non-polar samples like oils & fats.	2.5 L	182.44
	4x2.5 L	630.44

<b>HYDRANAL® Solvent Oil</b>		
<b>#34749</b>	1 L	91.56
For water determination in non-polar substances like fats and oils. Contains methanol and hexane.	6x1 L	477.69

### SPECIALTY REAGENTS FOR ALDEHYDES AND KETONES

<b>HYDRANAL® Solvent E</b>		
<b>#34730</b>	1 L	71.68
An ethanol based working medium containing imidazole, sulphur dioxide and diethanolamine. Can be used in the analysis of aldehydes and ketones when used with other methanol free reagents.	6x1L	374.05
	2.5 L	148.43
	4x2.5 L	515.47

<b>HYDRANAL® Titrant 2E</b>		
<b>#34723 DEA</b>	1 L	73.08
A two component reagent based on ethanol. Can be used with any combination of traditional solvents. When used with Hydranal® Solvent E, it provides a methanol-free system for the analysis with a titre of 2.	6x1 L	381.07

<b>HYDRANAL® Titrant 5E</b>		
<b>#34732 DEA</b>	100 ml	31.74
A two-component reagent based on ethanol. Can be used with any combination of traditional reagents. When used with the Hydranal Solvent E, it provides a methanol free system for the analysis with a titre of 5.	500 ml	67.90
	1 L	73.73
	2.5 L	160.31
	6x1 L	384.85
	4x2.5 L	551.64

## COULOMETRIC REAGENTS

Coulometry usually requires the use of an anolyte and a catholyte. Hydranal® anolytes contain iodide and a sulphur dioxide/imidazole buffer in a suitable solvent. Coulometric reagents have a shelf life of 5 years, as long as bottle remains unopened.

### ANOLYTES

<b>HYDRANAL® Coulomat A</b>		
<b>#34807</b>	500 ml	95.73
Anolyte standard two component coulometry. Contains methanol and chloroform as the solvents. Water capacity is > 10 mg/ml.	6x500 ml	490.11

<b>HYDRANAL® Coulomat AG</b>		
<b>#34836</b>	500 ml	95.21
For coulometry in cells with or without a diaphragm. Free of carbon tetrachloride and chloroform.	6x500 ml	496.04
	1 L	166.56
	6x1 L	869.02

<b>HYDRANAL® Coulomat AG-H</b>		
<b>#34843</b>	500 ml	107.20
Coulometric analysis for cells with or without a diaphragm. Effective for very polar samples (long-chained hydrocarbons). Free of carbon tetrachloride and chloroform.	6x500 ml	579.70

<b>HYDRANAL® Coulomat AD</b>		
<b>#34810</b>	500 ml	124.15
For coulometry in cells without a diaphragm. Free of carbon tetrachloride and chloroform.	6x500 ml	646.63

### CATHOLYTES

<b>HYDRANAL® Coulomat CG</b>		
<b>#34840</b>	50 ml	76.65
Standard catholyte for coulometric cells with diaphragm. It contains protected ammonium salts as the reactive component and methanol.	6x50 ml	401.04

<b>HYDRANAL® Coulomat Oil</b>		
<b>#34868</b>	100 ml	30.34
Anolyte for determination of oils. Based on methanol, with addition of aromatic and halogenated hydrocarbons to aid solubility.	6x100ml	158.69
	500 ml	102.77
	6x500 ml	537.60

### SPECIALTY REAGENTS FOR ALDEHYDES & KETONES

<b>HYDRANAL® Coulomat AK</b>		
<b>#34820</b>	500 ml	221.84
Anolyte for coulometric water determination in samples containing ketones.	6x500 ml	1149.70

<b>HYDRANAL® Coulomat CG-K</b>		
<b>#34821</b>	50 ml	195.93
Catholyte for coulometric water determination in samples of aldehydes & ketones. Packaged as 10x5ml ampoules.	6x50 ml	1017.99

### SPECIALTY REAGENTS

<b>HYDRANAL® Coulomat E</b>		
<b>#34726</b>	500 ml	111.73
Replaces much of the methanol with ethanol reducing the toxicity without affecting performance. Can be used in systems with or without a diaphragm.	6x500 ml	581.86

<b>HYDRANAL® Coulomat AF7</b>		
<b>#34829</b>	1 L	202.41
Anolyte for two-component coulometry, specifically for the AF7 coulometer. It is used with Composite 5 as the catholyte.	6x1 L	1057.93

## SPECIALTY REAGENTS

**HYDRANAL® STANDARDS**

Standards are necessary to standardize and control reagents, to check reliability of the titrator and to test instruments according to the requirements of ISO9000, GMP, GLP and FDA guidelines. (A Manufacturer's Test certificate with exact specifications is included with each standard.)

**CERTIFIED STANDARDS****HYDRANAL® Water standard 0.10**

#34847	40 ml	91.33
A certified standard containing 0.01 mg of H <sub>2</sub> O per g (0.10 mg/g=0.01%).	6x40 ml	476.90

40 ml is packaged as 10x4 ml ampoules.

**HYDRANAL® Water Standard 1.0**

#34828	40 ml	91.33
A certified standard containing 1.00 mg of H <sub>2</sub> O per g (1 mg/g = 0.1%).	6x40 ml	476.90

40 ml is packaged as 10x4ml ampoules.

**HYDRANAL® Water Standard 10.0**

#34849	80 ml	91.33
A certified standard containing 10.0 mg of H <sub>2</sub> O per g (10 mg/g= 1%).	6x80 ml	476.90

80 ml is packaged as 10 x 8 ml ampoules.

**NEW****ISO GUIDE 34 WATER STANDARDS****HYDRANAL® CRM WATER STANDARD 10.0**

#34425	Water content 10.0 mg/g=1.0%	80 ml (10x8ml)	109.59
#34426	Water content 1.0 mg/g = 0.1%	40 ml (10x4ml)	109.59
#34424	Solid CRM Standard, water content	10 gm	87.65

Approx. 15.66%

**BUFFERS**

#34804	500 ml	51.93
For KF titrations of samples containing Salicylic acid.	6x500 ml	272.58
<b>HYDRANAL®</b> Molecular Sieve 0.3nm	250gm	54.08

#34241

**HYDRANAL® Buffer Base**

#37859	1 L	88.84
For KF titrations of samples containing Salicylic acid. Buffer capacity 1 mmoles base/ml.	6x1 L	463.65

**HYDRANAL® Humidity Absorber**

#34788	500 gm	45.88
	1 kg	76.10

**HYDRANAL® Formamide Dry**

#34724	1 L	70.92
	6x1L	304.97

**OTHER STANDARDS****HYDRANAL® Water Standard KF oven 220-230° C**

#34748	10 gm	59.70
Solid standard specially designed to check /control/validate KF ovens @ 229-230 ° C	6x10 gm	316.84

Consists of finely milled potassium citrate-1-hydrate with a theoretical water content of 5.55% by weight.

**HYDRANAL® Coulomat AG Oven**

#34739	500 ml	111.73
Anolyte for coulometric water determinations using a KF oven. Ensures low error even for long duration determinations. Free of halogenated hydrocarbons.	6x500ml	584.02

**HYDRANAL® Standard 5.0 Non-Hygroscopic**

#34813	100 ml	22.79
A non-hygroscopic butanol/xylene mixture for volumetric standardization.	6x100 ml	118.21
Water content is 5.00 ± 0.02 mg/ml	500 ml	58.84
	6x500 ml	270.42

**HYDRANAL® Water in Methanol Standard 5.00**

#34802	1 L	49.45
A standard designed specifically for use in doing back titrations. Water content is 5.00 ± 0.02 mg/ml	500 ml	36.17

**HYDRANAL® Standard Sodium Tartrate-2-hydrate**

#34803	100 gm	49.87
A primary standard for volumetric titration.	6x100 gm	261.25

Water content = 15.66 +/- 0.05%

**HYDRANAL® Water Standard Oil**

#34694	80 ml	140.35
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A standard specifically designed for water determination in oils by coulometric titration. Water content in low ppm range.

**HYDRANAL® Water Standard KF Oven 140-160° C**

#34693	10 gm	65.20
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Solid standard specifically designed to check/control/validate KF ovens @ 140-160 deg. C. Water content approx. 5% (exact value stated on C of A).

**HYDRANAL® Sodium Tartrate Dihydrate**

#34696	25 gm	27.10
	6x25 gm	139.26

**HYDRANAL® Chloroform**

#37863	1 L	55.80
<b>HYDRANAL®</b> Xylene	6x1L	290.39

**HYDRANAL® Xylene**

#37866	1 L	67.90
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**HYDRANAL® Salicylic acid**

#37865	500 gm	39.19
<b>HYDRANAL®</b> Imidazole	500 gm	95.75

**HYDRANAL® Benzoic acid**

#37864	500 gm	46.63
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**#32035**