1.2 / Application

1.2.1/ Determination of Glyphosate in water sample by IC

Agricultural development and its associated impacts on the environment are resulting in increasingly restrictive guide lines and legislation concerning the use of chemicals in agro-ecosystems. The herbicide glyphosate is widely used for weed control in both cultivated and uncultivated areas and is considered to show low toxicity to mammals . it is highly water- soluble and it is monitoring in surface underground and potable waters is recommended by the united states Environmental protection Agency . this work presents method for the inclusion of glyphosate determination within routine anion analysis using ion chromatography in water sampler without any kind of extraction , clean up ,or preconcentration step. The equipment used was a Dionne model ICE -3000 ion chromatograph fitted with a 25 l loop Ion pac AG19 guard and analytical colums ,ASRS-300(2mm) suppressor , and conduction detector . the method showed a liner response to glyphosate between 0.05-0.75 mg/L with a correlation coefficient of 0.999 , and detection limit below the maximum level permitted by Brazilian legislation . recoveries in the range 90-105 % were achieved in test using surface well potable and ultrapure water sample .

Comparison of Supperessed to Nonsupperessed Conductivity Detection for the determination of Common Inorganic Cations..

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1.2.2/Determination of Inorganic Cations and Ammonium in Environmental Waters by Ion chromatography using the Ion Pac CS16 Column

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1.2.3) Determination of Inorganic Anions in Wastewater by Ion chromatography

THE Ion Pac AS 14 column provides improved fluoride resolution from the column void peak and complete resolution of fluoride from formate and acetate . the improve selectivity and higher capacity make the AS14 column the most appropriate choice for the routine determination of inorganic anion in typical , moderate ionic strength domestic and industrial wastewater samples .the Ion Pac AS9-HC column has a significantly higher capacity than the AS4A –SC and AS14 column , so total run times are longer and peak response is some what reduced however this column is ideal for the determiner og inorganic anions in high ionic strength wastewater samples . this column can be used to determine nitrite in a 10,000-fold excess of chloride when using conductivity detection , while direct UV detection allow the determination of nitrite n the presence of still higher level of chloride .

1.2.4/Determination of inorganic anions in papermarking waters by ion chromatography .

A suppressed ion chromatography (IC) method for the Determination of inorganic anions in process water from paperboard production was developed and validates . common inorganic anions(Cl,NO3,PO3AND SO4) were detected in fresh and process water sample collected from a paperboard production system at 16 characteristic points. It was shown that the use of an IonPac-AS14 column under isocratic condition with Na2CO3/NaHCO3 as the eluent and a suppression device proved to be a reliable analytical solution for the separation of the inorganic anions present in papermaking waters . this IC method is quite satisfactory concerning selectivity and sensitivity , and enable the determination of several inorganic anions over a wide

concentration range According to the obtained result , the total amount of analyzed inorganic anions was below0.1g/L i.e ; below the critical value which may trigger operation problem production .

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1.2.5/Determination of anions by ion chromatography in water samples of Baghdad city

Determination of anions by IC method in chromatography in water samples of Baghdad were carried out in this investigation . the optimum values of the instrumental parameters were reached best in relative standard deviation (RSD) , correlation coefficient ® and method . Both peak hight (PH) and peak area (PA) were used for the evaluation of the IC signal . All standard and samples have been prepared by ultra pure water Generally the peaks for anion were clearly , good resolution and there are no any interaction between its , we recorded the total time for anion analyses was about 14 min.

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1.2.6/Simple procedure for ion chromatographic determination of anions and cations at trace level in ice core samples

Several suppressed and non-suppressed ion chromatography (IC)elution system were compare for the compared for the determination of ng mL level of major cations ,including format and methy L sulphonate in ice core samples using a small(0.2-0.8) Sample volume . the use of suppression unit considered enhanced the sensitivity of the anion determination ,but had no remarkable effect on the sensivity of the cation determination . Optimized analytical condition were further validates in term of

accuracy , precision and total uncertainty and the result showed the reliability of the IC method . In addition ,contamination free ice handling procedure is presented . 1999 Elsevier Science B.V. All write reserved .

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1.2.7/In this paper , we described the use of the Ion Pac AS14 A anion exchange column with a new Atlas Electrolytic Suppessor (AES) for the routine high throughput determination inorganic anion in drinking water matrrrices. The Ion Pac AS14 A provides greater speed and efficiency , ruggedness equivalent to the AS4A- SC column improved separation of fluoride from the void volume(water dip), and better overall separation selectivity . The AES is a continuously electrolytically regenerated suppressor based on the MonoDisc supperessor technology. The Atlas electrolytical suppressor offers lower baseline noise and improved ruggedness and reliability . the analytical throughput , potential interferences linear range method dictation limits , system stability , and analytical recoveries obtained using the AS14 column with theAltas suppressor for drinking water are described in this Application.

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1.2.8/Determination of alkali and alkaline earth element along with nitrogen in uranium based nuclear fuel materials by ion chromatography(IC)

Abstract

An accurate an sensitive chromatography (IC) method with suppressed conductivity detection for determination of traces of Na, K ,Mg and Ca along with nitrogen in uranium based matrials . the method involves matrix separation after sample dissolution by hydrolyzing and filtering off the polyvalent cations ,transition element interfering in the determination of Ca were removed between exchange cartridge containing imiinodaicetate .

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1.2.9/Determination of polyphosphates Using Ion chromatography

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1.2.10/Determination of trace amount of nitrogen in uranium based sample by ion chromatography (IC) without Kjeldahl distillation .

A simple , sensitive and fast ion chromatography (IC) method with suppressed conductivity detection is described for the determiner of traces of nitrogen in uranium based fuel material . Initially a method was developed to determine nitrogen as NH4 using cation exchange column after matrix separation by Kjeldahl distillation . the method was then improved by eliminating this distillation . Matrix separation after sample dissolution was done by hydrolyzing and filtering off the polyvalent cation . this had helped in reducing both the sample size and analysis time . Optimization of dissolution condition for various kinds of uranium based sample was done to keep acid content minimum ; a prerequisite chromatography condition . the calibration plot for nitrogen was linear in the concentration range of 0.02-1mg L with regression coefficient of 0.9999. the relative standard deviation (R.S.D.).obtained in this method (100Linjected) was 3%-2% in 9 replicates at nitrogen level of 28 and 55 ng g respectively .

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1.2.11/Direct determination of Cyanide in drinking water by Ion chromatography with pulsed Amperometric detection (PAD)

REFERENCE

1-maximum contaminant level for Inorganic contaminant . Fed . regist . code of federal regular ,section 162 ,title 40 ,revised July 1,2002 , 428-429

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20)

Hamilton PRP-X100 anion column (6.1005.000)
For the determination of anion without chemical suppression

This bulletin describe the determination by ion chromatography of anions , particular fluoride ,chloride , nitrate , and sulphate ,using the Hamilton PRP-X100ICanion column without chemical suppression .

1.2.12/ Metal species determination by ion chromatography .
Ion chromatography separation by anion exchange of metal ions involves their presence as negatively charged complexes which can be obtained off-life (through their formation before the chromatography separation , complexes must be stable enough to avoid decomposition during separation or ligand must be added eluent) and on line (complexation in the chromatography column itself , by adding the proper ligand to the eluent)

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1.2.13/A simple , Direct IC method for the determination of silicate in sugar processing streams .
An ion chromatography method for analyzing silicates in sugarcane juice has been developed . it has advantages of speed , potential automatic and lack of interference from other constituents in juice .
Conclusion
A simple , direct IC method for the analysis of silicate in sugar factory streams has been developed that takes ten minutes per sample . Automation of the analysis is possible for large sample studies. The method has been found to be linear and free of interference from typical factory constituent and could be useful in clarification and evaporation studies .

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1.2.14/ION CHROMATOGRAPHIC DETERMINATION OF LOW – LEVEL PERCHLORATE IN NATURAL WATERS .

تعتبر البركلورات من الملوثات المنتشرة في مياه الشرب والمياه السطحية والجوفية وكذلك التربة. ومن المسببات المحتملة لهذه الملوثات : المواد الحربية وبرنامج اكتشاف الفضاء , اضافة الى الصناعات المساندة لذلك , كما يعتبر السماد المستخدم للزراعة مصدرا لهذه الملوثات . وتمكن خطورة البركلورات CCL في اثرها السلبي على الغدة الدرقية مما دفع بالمنظمة الامريكية لحماية البيئة الى ادراجها ضمن قائمة المواد الملوثة في عام 1998م , كما حددت المنظمة النسبة التي قد لا تشكل خطرا على حياة الانسان . وفي هذا البحث سوف نعني بوصف وتحديد مستوى تركيز CLO4في اوساط مختلفة بأستخدام طريقة الطيفيات اللونية الايونية . وسوف نستخدم في هذه الطريقة عمود ديوكسين AS11مع قياس الموصلية المنخفضة , حجم العينة =1500و100mn من الصودا الكاوية ومعدل دفق قدره 1.0ml/minوتسمح هذه المعطيات برصد 0.277µg/lكحد ادنى MDLوزمن استرخاء يساوي 8دقائق . وكضمان لجودة هذه الطريقة قمنا بتحليل عينة قياسية من EPAاضافة الى عدة عينات بيئية اخذت من ولاية نيويورك (مياة جوفية) وكاليفورينيا (مياه سطحية وجوفية) . وقد كانت نتائج القياس في المدى 1.9217 µG/Lكما لم نجد اي دليل على وجود CLO4في الاسمدة الشائعة الاستعمال .

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1.2.14/Determination of Anions in Acid Rain by Ion chromatography

This application note describe the established ion chromatography method for the determination of anions in rainwater samples extended to the use of microbore columns and accessories . A rainwater standard and technology (NIST) was analysis , verifying the accuracy of the method.

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1.2.15/ Determination of Anions in Acid Rain by Ion chromatography

The use of IC with an IonPac AS18 and electrolytic eluent generation provides a rapid , isocratic analysis for the determination of inorganic anions in rainwater . the results obtained from the simulated to the value reported by HPS and were well within the certified standard deviation ranges . In addition , electrolytic generation .

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1.2.16/Determination of Inorganic Anions in Drinking water by Ion chromatography .

This application note describe the determination of inorganic anions in drinking water and other environmental waters uses conditions

that are consistent with those in U.S EPA method the use of an optional , the Ion , AS14 also discussed .

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1.2.17/Determination of Anions in Acid Rain by Ion Chromatography

This application note describe the established ion chromatography method for the determination of anions in rainwater sample extended to the use of microbe columns and accessories . A rainwater standard from the National Institute of standard and technology (NISST) analysis ,verifying thee accuracy of the method .

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1.2.18/Application Bulletin

Metrosep Anion Dual 2 IC column (6.1006.100)

For the determination of anions with and without chemical suppression

This bulletin describe the determination by ion chromatography of anion particular fluoride , nitrate , chloride , bromide ,orthophosphate and sulphate using the metrosep Duel 2 IC column with and without chemical suppression .

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1.2.19/ Application Bulletin

Metrosep Anion dual 1 IC glass cartridge (6.1006.020)

For the determination of anions with and without chemical suppression

This bulletin describe the determination by ion chromatography of anions , particular fluoride , chloride , nitrate , orthophosphate and sulphate using the metrosep Anion dual 1IC glass cartridge with And WITHOUT chemical suppression .

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