Method parameters

Method . . . . . Alkalinity_Op
Method saving date . . . . . 2018-06-06 14:41:49 UTC+3
Method version 2
Method group . . . . . Main group
Method status . . . . . original
Method saved by (full name) . . . . .
Method saved by (short name) . . . . . Owner

START **Main track**

General

Workplace view

Current view . . . . . on

Track view for live window

Live display 1 . . . . . Main track

Live display 2 . . . . . Main track

Statistics . . . . . off

Number of single determinations . . . . . not defined

Conditioning

Automatic conditioning . . . . . on

Application note

Method variables

Name	Type	Assignment	Fixed value	Comment	Monitoring
Sample size	Number	Sample size		Sample size	off
Sample size unit	Text	Sample size unit		Sample size unit	off
Sample position	Number	Sample position		Sample position number	off
ID1	Text	ID1		Sample identification 1	off
ID2	Text	ID2		Sample identification 2	off
ID3	Text	ID3		Sample identification 3	off

Name . . . . . **Sample size**
Type . . . . . Number
Assignment . . . . . on . . . . . Sample size
Fixed value . . . . . off . . . . .
Check at start . . . . . on
Comment . . . . . Sample size
Variable monitoring . . . . . off
Lower limit . . . . .
Upper limit . . . . .
Message . . . . .
Display message . . . . . on
Record message . . . . . on

Message by e-mail	off
Use e-mail template	off
E-mail template	
Mail to	
Subject	Message from tiamo - Method '%1' - Command '%2'
User	
Mail from	
SMTP Server	
POP3 Server	
Acoustic signal	off
Action	off
Cancel determination	on
Cancel determination and series	off

Name	**Sample position**
Type	Number
Assignment	on Sample position
Fixed value	off
Check at start	on
Comment	Sample position number
Variable monitoring	off
Lower limit	
Upper limit	
Message	
Display message	on
Record message	on
Message by e-mail	off
Use e-mail template	off
E-mail template	
Mail to	
Subject	Message from tiamo - Method '%1' - Command '%2'
User	
Mail from	
SMTP Server	
POP3 Server	
Acoustic signal	off
Action	off
Cancel determination	on
Cancel determination and series	off

Name	**Sample size unit**
Type	Text
Assignment	on Sample size unit
Fixed value	off
Check at start	on

Comment	Sample size unit

Name	**ID1**
Type	Text
Assignment	on ID1
Fixed value	off
Check at start	on
Comment	Sample identification 1

Name	**ID2**
Type	Text
Assignment	on ID2
Fixed value	off
Check at start	on
Comment	Sample identification 2

Name	**ID3**
Type	Text
Assignment	on ID3
Fixed value	off
Check at start	on
Comment	Sample identification 3

SEQUENCE **SEQUENCE 5**

MOVE **MOVE 6**

Device

Device name	855_1	
Device type	855 Robotic Titrosampler	

Target

Tower	1	
Move	Sample position	

Beaker test

Display message	on	
Cancel determination	off	
Cancel determination and series	off	

Parameters

Shift rate	20	°/s
Shift direction	auto	
Swing rate	55	°/s

LIFT **LIFT 7**

Device

Device name	855_1	
Device type	855 Robotic Titrosampler	

Target

Tower	1	

	Lift position	Work position	mm
	Parameters		
	Lift rate	25	mm/s
MEAS pH	**MEAS init pH**		
	General/Hardware		
	Device		
	Device name	855_1	
	Device type	855 Robotic Titrosampler	
	Sensor		
	Measuring input	1	
	Sensor	pH electrode	
	Temperature measurement	automatic	
	Stirrer		
	Stirrer	1	
	Stirring rate	5	
	Switch off automatically	on	
	Measuring parameters		
	Measurement		
	Measurement with drift control	on	
	Signal drift	1	mV/min
	Min. waiting time	30	s
	Max. waiting time	154	s
	Measuring interval	2.0	s
	Stop measured value pH	off	
	Measurement without drift control	off	
	Temperature		
	Temperature	20	°C
	Evaluations		
	Fixed endpoint evaluation	off	
	Minimum evaluation	off	
	Maximum evaluation	off	
	Break point evaluation	off	
	Additional measured values		
	Additional calculated measured values	off	
	Additional external measured values	off	
DET pH	**DET pH**		
	General/Hardware		
	Device		
	Device name	855_1	
	Device type	855 Robotic Titrosampler	
	Dosing device		
	Dosing device	2	
	Solution	HCl	
	Sensor		

Measuring input 1
Sensor . . . . . pH electrode
Temperature measurement . . . . . automatic
Stirrer
Stirrer 1
Stirring rate 5
Switch off automatically . . . . . on

Start conditions

Initial measured value
Signal drift . . . . . off mV/min
Min. waiting time . . . . . 0 s
Max. waiting time . . . . . 1 s
Start volume
Start volume . . . . . 1.5 mL
Dosing rate . . . . . maximum mL/min
Start measured value
Start measured value pH . . . . . off
Dosing rate . . . . . 5 mL/min
Start slope
Start slope . . . . . off pH/mL
Dosing rate . . . . . 5 mL/min
Pause
Pause . . . . . 0 s

Titration parameters

Titration rate
Titration rate . . . . . fast
Temperature
Temperature . . . . . 20 °C

Stop conditions

Stop volume . . . . . 10 mL
Stop measured value pH 2.8
Stop EP 1
Volume after EP . . . . . 1 mL
Stop time . . . . . off s
Filling rate . . . . . maximum mL/min

Potentiometric evaluation

Evaluation without window . . . . . off
Evaluation with measured value window (pH) . . . . . on

Lower limit pH	Upper limit pH	EP criterion	EP recognition
3	5	7	greatest

Evaluation with volume window (mL) . . . . . off

Additional evaluations

Fixed endpoint evaluation . . . . . off

pK/HNP evaluation . . . off
Minimum evaluation . . . off
Maximum evaluation . . . off
Break point evaluation . . . off
Gran evaluation . . . on
Procedure . . . Standard
Initial volume . . . 0.2 mL
Lower limit pH . . . -20.0
Upper limit pH . . . 20.0

Additional measured values

Additional calculated measured values . . . off
Additional external measured values . . . off

SEQUENCE **SEQUENCE 8**

MOVE **MOVE 11**

Device
Device name . . . 855_1
Device type . . . 855 Robotic Titrosampler
Target
Tower . . . 1
Move . . . Special beaker
Number . . . 1
Beaker test
Display message . . . on
Cancel determination . . . off
Cancel determination and series . . . off
Parameters
Shift rate . . . 20 °/s
Shift direction . . . auto
Swing rate . . . 55 °/s

LIFT **LIFT 12**

Device
Device name . . . 855_1
Device type . . . 855 Robotic Titrosampler
Target
Tower . . . 1
Lift position . . . Rinse position mm
Parameters
Lift rate . . . 25 mm/s

PUMP **PUMP 15**

Device
Device name . . . 855_1
Device type . . . 855 Robotic Titrosampler
Pumps

Tower 1
Pump(s) 1
Action
Switch on . . . . . off
Switch off . . . . . off
Duration . . . . . on
Time . . . . . 3 s

EXIT **Exit track**

CALC **CALC**

Result name	Formula	Unit	Decimal places	Assignment	Statistics
Alkalinity	=('DET pH.EP{1}.VOL' /1000) * 'DET pH.CONC'*1000000 / ('MV.Sample size'/1000)	µmol/kg	3	RS01	off
dKH	= 'RS.Alkalinity' * 0.00205 / 2 * 2.8	dKH	2	RS05	off
pH at EP	= 'DET pH.EP{1}.MEA'		2	RS02	off
pH init	= 'MEAS init pH.EME'		2	RS03	off
pH final	= 'DET pH.EME'		2	RS04	off
Alkalinity_2	= 'RS.Alkalinity' * 0.00205 / 2 * 2.8*1.025*0.357	Meq\kg	3	RS06	off

Result name . . . . . **Alkalinity**
Formula . . . . . =('DET pH.EP{1}.VOL' /1000) * 'DET pH.CONC'*1000000 / ('MV.Sample size'/1000)
Unit . . . . . µmol/kg
Decimal places 3
Assignment RS01
Statistics . . . . . off
Description . . . . .
Result monitoring . . . . . off
Save result as common variable . . . . . off
Common variable . . . . .
Save result as titer . . . . . off
Solution name . . . . . HCl

Result name . . . . . **dKH**
Formula . . . . . = 'RS.Alkalinity' * 0.00205 / 2 * 2.8
Unit . . . . . dKH
Decimal places 2
Assignment RS05
Statistics . . . . . off
Description . . . . .
Result monitoring . . . . . off

Save result as common variable	off
Common variable	
Save result as titer	off
Solution name	HCl

Result name	**pH at EP**
Formula	= 'DET pH.EP{1}.MEA'
Unit	
Decimal places	2
Assignment	RS02
Statistics	off
Description	
Result monitoring	off
Save result as common variable	off
Common variable	
Save result as titer	off
Solution name	HCl

Result name	**pH init**
Formula	= 'MEAS init pH.EME'
Unit	
Decimal places	2
Assignment	RS03
Statistics	off
Description	
Result monitoring	off
Save result as common variable	off
Common variable	
Save result as titer	off
Solution name	HCl

Result name	**pH final**
Formula	= 'DET pH.EME'
Unit	
Decimal places	2
Assignment	RS04
Statistics	off
Description	
Result monitoring	off
Save result as common variable	off
Common variable	
Save result as titer	off
Solution name	HCl

Result name	**Alkalinity_2**
Formula	= 'RS.Alkalinity' * 0.00205 / 2 * 2.8*1.025*0.357

Unit . . . . . Meq\kg
Decimal places 3
Assignment RS06
Statistics . . . . . off
Description . . . . .
Result monitoring . . . . . off
Save result as common variable . . . . . off
Common variable . . . . .
Save result as titer . . . . . off
Solution name . . . . . HCl

REPORT **REPORT**

Report template
Report template . . . . . example report
Report output
Printer . . . . . off
PDF file . . . . . off

DATABASE **DATABASE**

Database
tiamo

EXPORT **EXPORT 18**

Export template
Export template . . . . . O. patagonica physiology

SERIES START **Series start track**

RACK **initialize rack**

Device
Device name . . . . . 855_1
Device type . . . . . 855 Robotic Titrosampler
Rack test . . . . . off

MOVE **to rinse beaker**

Device
Device name . . . . . 855_1
Device type . . . . . 855 Robotic Titrosampler
Target
Tower 1
Move . . . . . Special beaker
Number 1
Beaker test
Display message . . . . . off
Cancel determination . . . . . on

Cancel determination and series . . . . . off
Parameters
Shift rate . . . . . 20 °/s
Shift direction . . . . . auto
Swing rate . . . . . 55 °/s

LIFT **LIFT 2**
Device
Device name . . . . . 855_1
Device type . . . . . 855 Robotic Titrosampler
Target
Tower 1
Lift position . . . . . Rinse position mm
Parameters
Lift rate . . . . . 25 mm/s

PUMP **aspirate and rinse**
Device
Device name . . . . . 855_1
Device type . . . . . 855 Robotic Titrosampler
Pumps
Tower 1
Pump(s) 1
Action
Switch on . . . . . off
Switch off . . . . . off
Duration . . . . . on
Time . . . . . 7 s

SERIES END **Series end track**

MOVE **MOVE 16**
Device
Device name . . . . . 855_1
Device type . . . . . 855 Robotic Titrosampler
Target
Tower 1
Move . . . . . Special beaker
Number 2
Beaker test
Display message . . . . . on
Cancel determination . . . . . off
Cancel determination and series . . . . . off
Parameters
Shift rate . . . . . 20 °/s
Shift direction . . . . . auto

Swing rate . . . . . 55 °/s

LIFT **LIFT 1**

Device

Device name . . . . . 855_1

Device type . . . . . 855 Robotic Titrosampler

Target

Tower 1

Lift position . . . . . Rinse position mm

Parameters

Lift rate . . . . . 25 mm/s

STIR **STIR 17**

Device

Device name . . . . . 855_1

Device type . . . . . 855 Robotic Titrosampler

Stirrer

Stirrer 1

Stirrer type . . . . . unknown

Stirring rate 3

Action

Switch on . . . . . off

Switch off . . . . . off

Duration . . . . . on

Time . . . . . 30 s