



TOXcontrol Software Manual

Version: V2.0
Date: 19-05-2011

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4. GENERAL

4.1 VERSION OVERVIEW

Version	Release date	Changes
V1.5	January 2011	Basic version
V2.0	May 2011	Final version

Table 1: Version overview

4.2 COPYRIGHT

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The reproduction of products names, registered trade names, designation of goods etc. in this manual does not imply that these names can be used by everyone, often these are registered trademarks, even if they are not marked as such.

4.3 LIMITED WARRANTY

microLAN BV warrants each Model TOXcontrol and its optional equipment against defects in materials and workmanship under normal use and service for a period of one (1) year. Equipment installed by microLAN is warranted from the installation date; all other equipment is warranted from the ship date. If purchaser schedules or delays installation more than 90 days after delivery, then the warranty period starts on the 91st day from date of shipment. This warranty extends only to the original purchaser. microLAN will, at its option, repair or replace equipment that proves to be defective during the warranty period, provided the equipment is returned to microLAN at the expense of the purchaser. Parts, labour, and return shipment to the customer shall be at the expense of microLAN. Travel costs shall be at the cost of the purchaser.

Software and firmware designed by microLAN for use with an external PC will execute its programming instructions when properly installed on that PC. microLAN does not warrant that the operation of the PC, software, or firmware will be uninterrupted or error-free.

Consumables, syringes and tubing are warranted for 30 days (parts only) and are not available for coverage under extended warranties or service contracts.

This warranty shall not apply to defects originating from:

- Improper maintenance or operation by purchaser.
- Purchaser-supplied accessories or consumables.
- Modification or misuse by purchaser.
- Operation outside of the environmental and electrical product specifications.
- Improper or inadequate site preparation.
- Purchaser-induced contamination or leaks.

5. MANUAL INFORMATION

5.1 NOTES, CAUTIONS AND WARNINGS

This manual contains Notes, Cautions and Warnings, for situations that may endanger operating personnel, cause damage to equipment or need specific attention. The following formats and symbols are used:

Note:

Notes provide additional information, such as expanded explanations, hints or reminders.

Caution:




Cautions alert you to conditions that may cause damage to the equipment or interfere with the normal processing and damage the product.

Warning:

Warnings point out procedures you must follow precisely to avoid personal injury or serious damage to the equipment.

5.2 RELATED DOCUMENTS

This manual is part of a set of microLAN b.v. manuals supplied for the TOXcontrol. Additional information can be found in:

-  (i)TOXcontrol User Manual
-  (i)TOXcontrol Advanced Manual
-  (i)TOXcontrol Service Part Manual

5.3 VERSION

Note: This manual is based on the last actual software versions

6. INTRODUCTION TOXCONTROL SOFTWARE

TOXcontrol Engine software is developed specifically to control the TOXcontrol instrument. The data generated during the operation of the TOXcontrol is always available and obtained results are saved into a database. The following figure describes the relation of the TOXcontrol instrument to TOXcontrol software and other software packages:

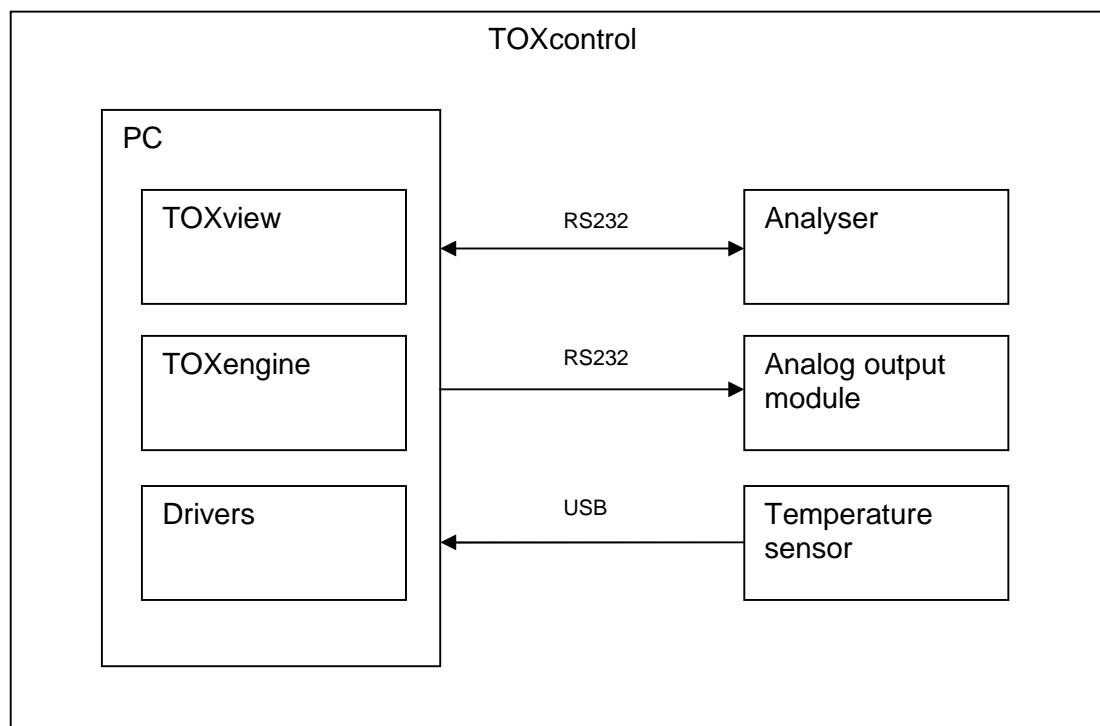


Figure 1: Overview relations TOXcontrol

The software is preinstalled by microLAN. The user or manager can change standard settings for the TOXcontrol as described in this manual.


The original software is delivered on CD or on a USB memory device with the instrument and is an unique version for the supplied instrument.

If an error or fault is given by the program, which relates to the software, please send an email to: service@microLAN.nl

6.1 TOXVIEW SOFTWARE

The required data for evaluation purposes or for obtaining a history, will be saved during a run in the TOXview database. It is possible to view the data in tables or charts.

The data can be exported very easily for data evaluation on another computer.

 See also: § 12 TOXview software

6.2 TOXCONTROL ENGINE SOFTWARE

The TOXengine software contains the HMI (Human Machine Interface) that takes care of the control of the TOXcontrol instrument.

In the Engine, the different settings for the instrument as the required, settings for calculations using variables data given by the user, are loaded when the program is started.

 See also: § 9 TOXcontrol Engine software

7. HARDWARE START-UP

7.1 HARDWARE INFO

The computer hardware in the instrument consists:

- Personal computer (PC) with a serial port and USB / TCP/IP connections
- 17" LCD monitor
- USB keyboard with integrated mouse pad

7.2 STEPS TO START-UP THE HARDWARE

Connect the instrument to a 230 VAC / 50 Hz power outlet (if you use 115V / 60 Hz you have to check with your supplier whether the system is converted for this).
Switch on the main switch. The control light in the main switch will turn on.

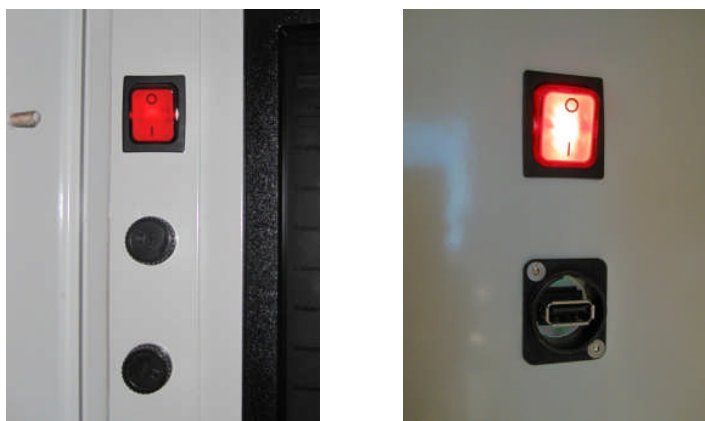


Figure 2: Main switch (TOXcontrol & iTOXcontrol)

The magnetic stirrer in the bacteria module will start to turn.
The instrument will perform an initialization procedure. This means that the tip arm will go up and move to the right position of the analyser.

When the computer will not start automatically it should be started manually.
Open one of the panels of the cabinet and switch on the computer by pressing the start switch.



Figure 3: Power switch PC

The software will automatically start. The instrument is now ready to use.

8. SOFTWARE START-UP

8.1 SOFTWARE START-UP INFO

To control the instrument and save the data automatically in the database it is important that the software runs as required.

The TOXview software will take care of the data in the database but should communicate with the TOXengine software.

8.2 STEPS TO START-UP THE SOFTWARE

8.2.1 Start-up TOXview software


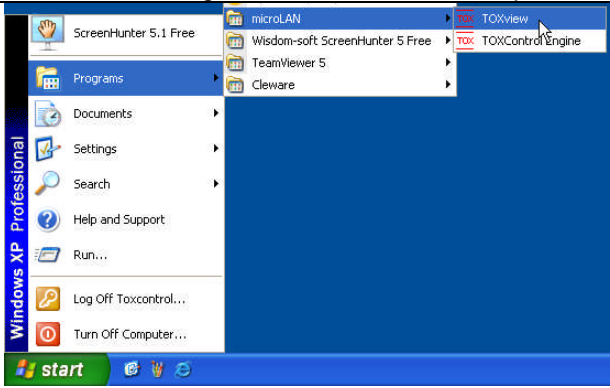
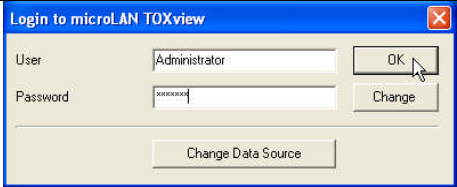
1		1. Start TOXview from the shortcut on the desktop or see step 2.
2	 <i>Figure 5: Shortcut in Start menu</i>	1. Start TOXview from the Start button: Programs > microLAN > TOXview
3	 <i>Figure 6: Login screen</i>	1. Start the TOXview software with the password: toxview

Table 2: TOXview start-up

8.2.2 Start-up TOXengine software

When starting the PC TOXcontrol Engine software will start automatically because there is a shortcut in the start-up menu.

When the TOXcontrol Engine software is not starting use the following steps.


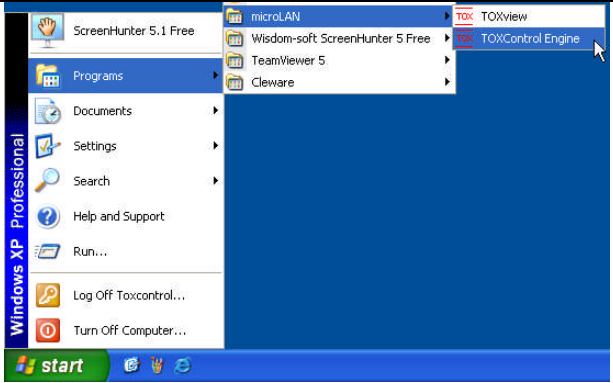

1	 <p><i>Figure 7: Shortcut on Desktop</i></p>	1. Start TOXcontrol Engine from the shortcut on the desktop or see step 2.
2	 <p><i>Figure 8: Shortcut in Start menu</i></p>	1. Start TOXview from the Start button Programs > microLAN > TOXcontrol Engine
3	 <p><i>Figure 9: Main screen</i></p>	1. The software will start by opening the main screen.

Table 3: TOXcontrol Engine start-up

8.3 ADDITIONAL INFO

When the TOXengine software is running it's possible to close the TOXview software. This software is always running on the background.

When the instrument has a power failure the software will automatic restart and the instrument will start the measurement.

When the TOXengine software is running with the Engine on it's possible to close the software, in this case an icon is shown in the taskbar.



Figure 10: Icon in taskbar

Note: Do not start the TOXcontrol engine software a second time, this causes communication problems.

9. TOXCONTROL ENGINE SOFTWARE

9.1 INTRODUCTION

The TOXcontrol Engine interface contains several information that has been displayed in several pages and menu's.

The software will show the following screen after start-up.



Figure 11: TOXcontrol Status screen

9.2 APPLICATION VERSION

In the top line of the window the version number of the application is shown



Figure 12: Application version

9.3 ENGINE

To start the TOXcontrol Engine software the Engine must be switched on.

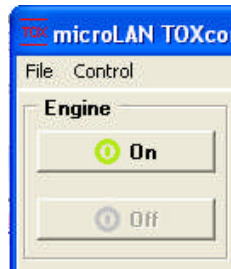


Figure 13: Engine On

After selecting the button “On” the following window will appear:

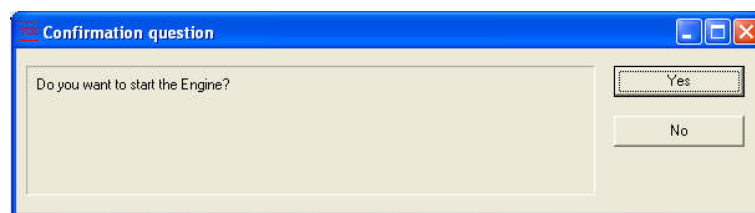


Figure 14: Confirmation

Press “Yes” to start the Engine.

When the Engine is started the following items are running:

- Actual temperatures on the status screen will be refreshed
 - See: § 11.17 Temperature bacteria cup 1
 - See: § 11.18 Temperature bacteria cup 2
 - See: § 11.19 Temperature incubation unit

To switch off the engine select the following button.

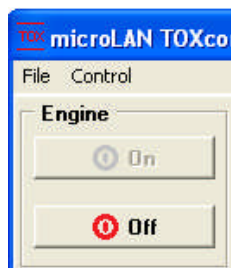


Figure 15: Engine Off

After selecting the button “Off” the following window will appear:

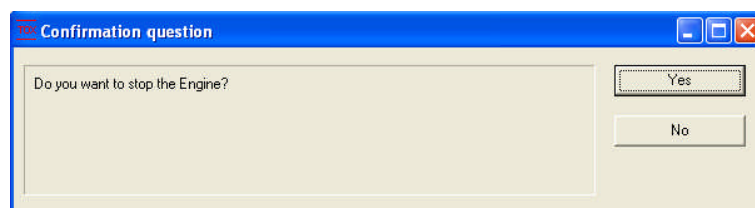



Figure 16: Stop confirmation

Press “Yes” to stop the Engine.

9.4 PROCEDURE

To start the instrument you must select a procedure.

More info about the procedures:  See : § 10 Procedure info

9.4.1 Starting a procedure

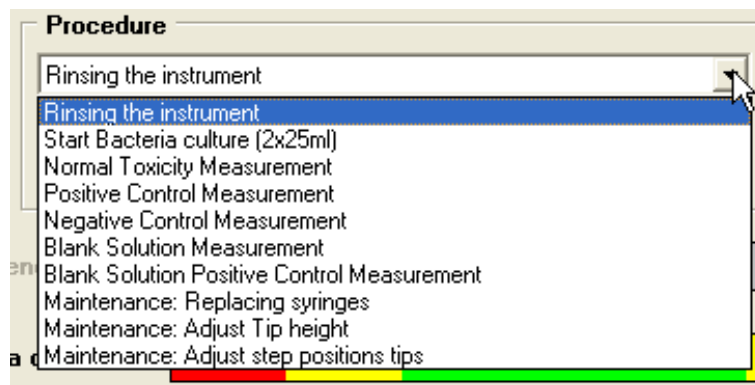


Figure 17: Select procedure

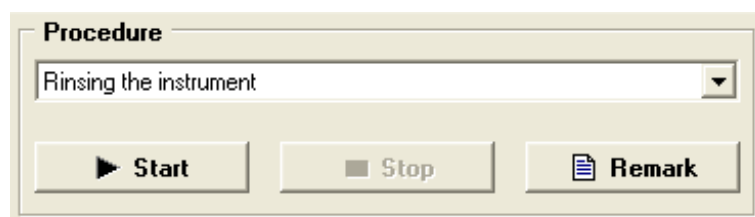


Figure 18: Start procedure

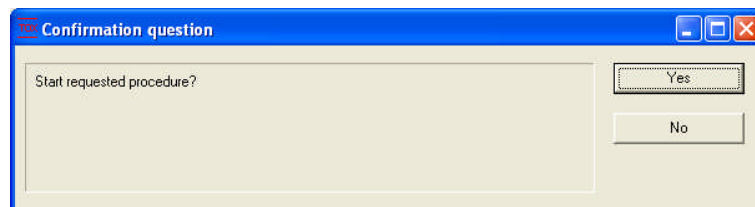


Figure 19: Start confirmation

Procedure: In the following window you can select a procedure by using the pull down menu to select one. (Figure 17)

Start: Start the selected procedure. (Figure 18)

Confirm: Press "Yes" to confirm the start of the selected procedure. (Figure 19)

9.4.2 Stopping and aborting a procedure

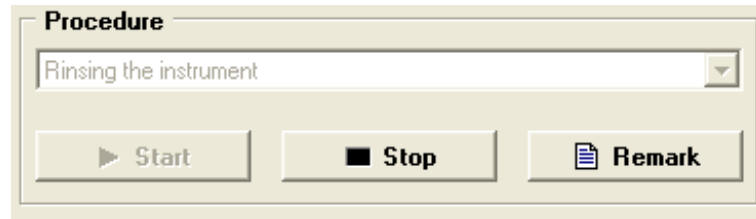


Figure 20: Stop procedure

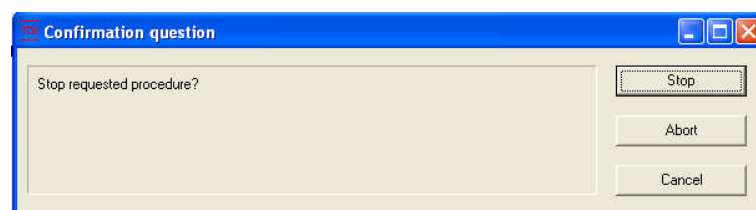



Figure 21: Stop confirmation

- Stop: Select the “Stop” button to open the selection window. (Figure 20)
- Stop: This button will stop the operation of the instrument, but the actual measurement will be finished. This button is the best option for stopping the operation. (Figure 21)
- Abort: This button will stop (abort) the operation of the instrument immediately. When this button is used in a measurement, rinsing step follows the next time the procedure is started again. (Figure 21)
- Cancel: This button will cancel this operation.

9.4.3 Add a remark

You can add a remark to the database, this remark is shown in the remarks page.

 See: § 12.2.1 File menu
Remarks page screen

Remarks are useful markers in the database, you can set maintenance, error or evaluation markers. These markers are default in the software, you can select one and add your name or other info.

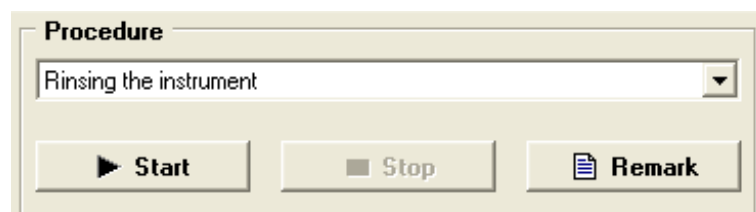


Figure 22: Add remark

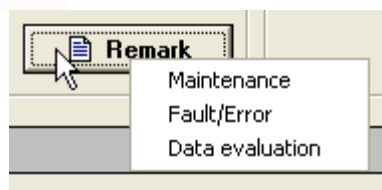


Figure 23: Select remark

Select the “remark” button and the menu will appear. Choice: Maintenance, Fault/Error or Data evaluation and one of the following windows will appear.



Figure 24: Maintenance remark



Figure 25: Fault/Error remark



Figure 26: Data evaluation remark

Select one of the remark items.

In the comment line you can add extra data, like your name. Time and data are automatically added to the remark.

9.5 STATUS OF THE INSTRUMENT



Figure 27: Status of the instrument window

In the upper right window, all warnings or errors during the operation of the TOXcontrol are presented.

RED:	Red coloured box is related to an alarm.
YELLOW:	Yellow coloured box is a warning.
GREEN:	Green coloured box represents the TOXcontrol in a normal situation.

When the window is grey no actual message is available.

9.6 FILE AND CONTROL MENU

The File menu and the Control menu can always be selected regarding which page is displayed. Some items are however useful specifically for a given page.

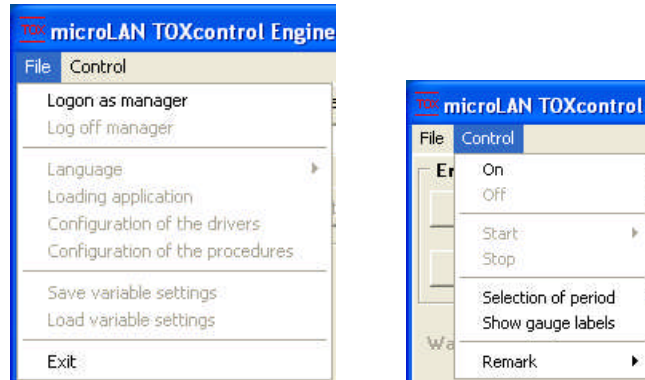


Figure 28: File & Control menu

When selecting the “File” or “Control” menu, the user can select the following items:

9.6.1 Logon as manager

In the TOXcontrol Engine software are three different user levels, different levels have different rights in the software. A password is needed to login as manager.

When logged on as manager you can change variables and change setting, in the user level this is not possible.

The TOXcontrol Engine has three different user types:

Level	Password	Remark
User		No password
Manager	tox	Password can be changed by the Service Manager
Service Manager	Qualified service personnel only

Table 4: Users

After the first start-up the TOXcontrol Engine software is always in the “User” level.

When logged in as User and Manager some fields will be grey’ these fields are read only and cannot be changed in this level.

When selecting “Logon as manager” the following screen will appear:

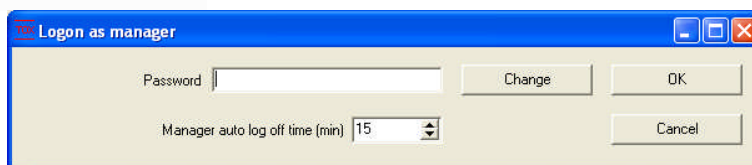


Figure 29: Logon as manager

Password:	Type the requested password to login.
Change:	Function is used to change the Manager password (Service level only)
Manager auto log off time:	After this time the software will return to the user level. The time can be changed.

9.6.2 Log off manager

When selecting “Logon off manager” the system will return to the user level.
When the Manager auto log off time is expired the system will also return to the user level.

9.6.3 Language

The user interface of the TOXcontrol Engine software is available in several languages.

When selecting “Language” the system language can be changed in one of the available languages.

Currently available languages:	English
	French
	Dutch
	Chinese
	Korean

More languages will be available in the future.

TOXview software is only available in the English language.

9.6.4 Loading application

The TOXcontrol Engine software will use an application to run the instrument, with this function an application can be changed or updated.

When selecting “Loading application” a new application can be loaded into the system. New applications will be provided by microLAN.

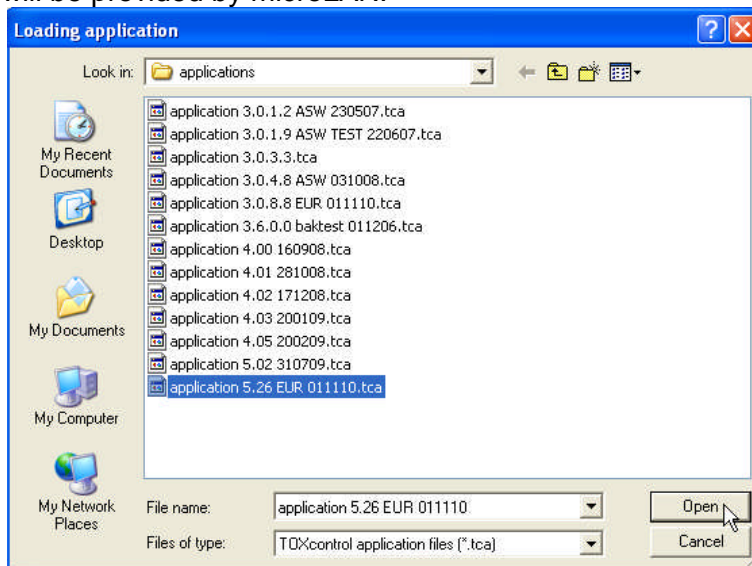



Figure 30: Loading application

- Step 1: Copy the received application to the directory: C:\Program Files\TOXview\applications
 - Step 2: Select “Loading application” and Figure 30: Loading application will appear.
 - Step 3: Select the requested procedure and press “Open”
 - Step 4: The actual application version is shown in the top of the TOXcontrol Engine software.
-  See also: § 9.2 Application version

9.6.5 Configuration of the drivers

Note: This function is only available in Service Manager level

To set and/or change the drivers in the TOXcontrol Engine software you need to open the configuration window. When selecting “Configuration of the drivers” the following window will appear:

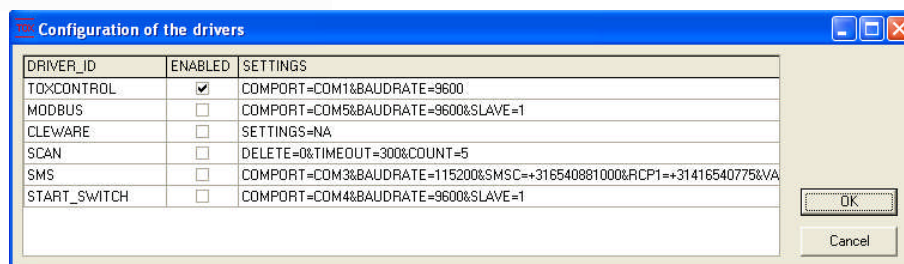


Figure 31: Configuration of the drivers

TOXcontrol: Communication settings for the TOXcontrol instrument
 Modbus: Settings for data communication with another PC
 Cleware: Driver for cabinet temperature sensor; temperature is displayed in the status screen.
 SCAN: Driver for data integration Scan sensor
 SMS: Settings for SMS function
 Start Switch: Driver for external start signal TOXcontrol instrument

Note: Contact your local support engineer for more info

9.6.6 Configuration of the procedures

Note: This function is only available in Service Manager level

With this function you can hide unused procedures. When selecting “Configuration of the procedures” the following screen will appear:

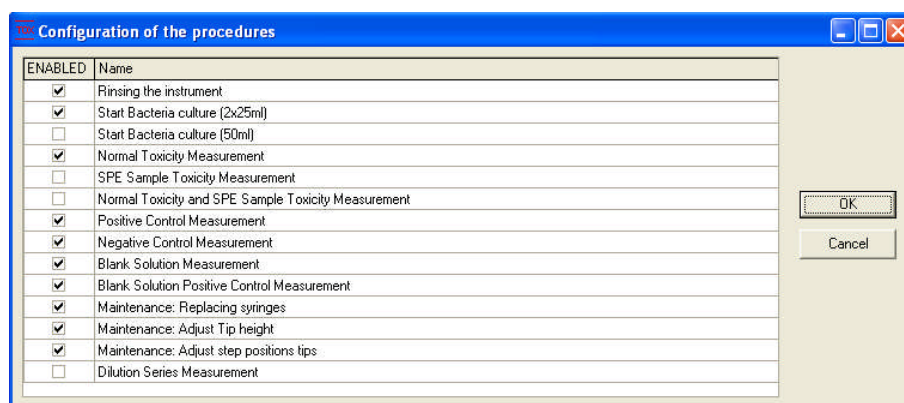


Figure 32: Configuration of the procedures

The selected procedures, checkbox on, are visible for the user and manager.


9.6.7 Save variable settings

Use this function to save variable settings.
 Only the process variables are saved, system variables are not saved in this file.

This function can be used when process settings need to be copied to another instrument.

9.6.8 Load variable settings

Use this function to load variable settings.


 See § 9.6.7 Save variable settings

9.6.9 Exit

Stopping the engine. This is only possible when the actual procedure has been stopped or aborted.


9.6.10 On

Engine switch on.

 See: § 9.3 Engine

9.6.11 Off

Engine switch off.

 See: § 9.3 Engine


9.6.12 Start

Start a selected procedure.

 See: § 9.4.1 Starting a procedure


9.6.13 Stop

Stop the currently running procedure, the procedure will end the actual cycle before it will stop.

 See: § 9.4.2 Stopping and aborting a procedure

9.6.14 Abort

Aborts the currently running procedure, the procedure will be aborted and will stop without finishing the cycle.

 See: § 9.4.2 Stopping and aborting a procedure

9.6.15 Selection of period

The data in the TOXcontrol Engine software can be displayed in tables and charts. The period that is displayed can be set with the period selector.

When selecting “Selection of period” the following window will appear:

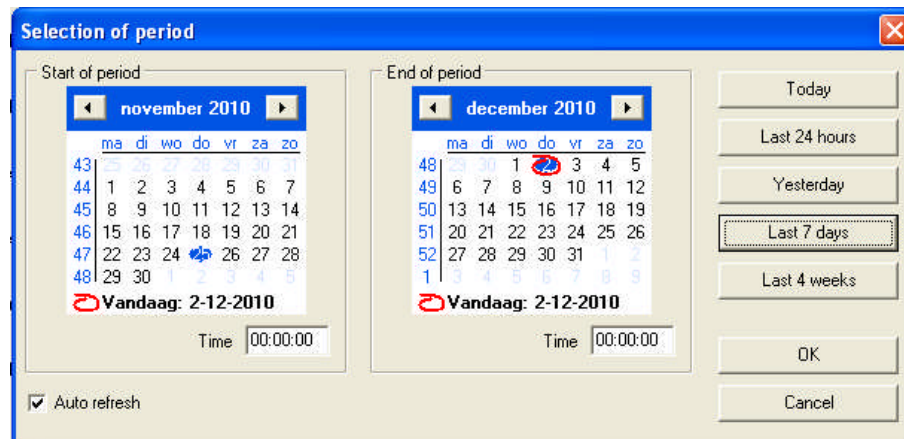


Figure 33: Selection of period

Start of period: Select start date and time

End of period: Select end date and time*

*Auto refresh: When checkbox is on, the end period is the actual time and date. To select a period in the past switch off the auto refresh function.

Today: Auto selection period: Today

Last 24 hours: Auto selection period: Last 24 hours

Yesterday: Auto selection period: Yesterday

Last 4 weeks: Auto selection period: Last 4 weeks

9.6.16 Show gauge labels

With this function you switch on and off the gauge labels in the status screen



Figure 34: Gauge without labels

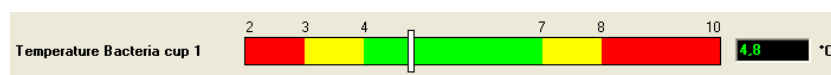



Figure 35: Gauge with labels

9.6.17 Remarks

This instruction has the same functionality as the remark button.

 See: § 9.4.3 Add a remark

9.7 INFO BAR

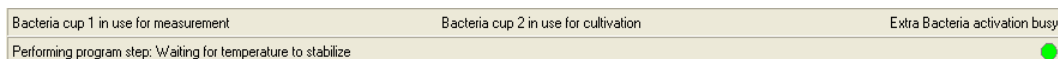


Figure 36: Info bar

The first line of the info bar contains info about the Cultivation procedures.

9.8 STATUS SCREEN

The Status page will provide information about the status of the instrument, like alarms, temperature readings, volume of bottles and the procedure which is performed at that moment.

To show the status screen select “Status”

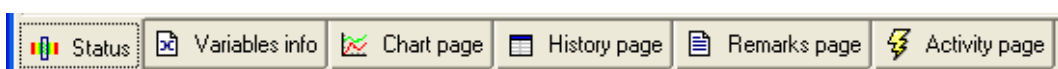


Figure 37: Screen selection; Status

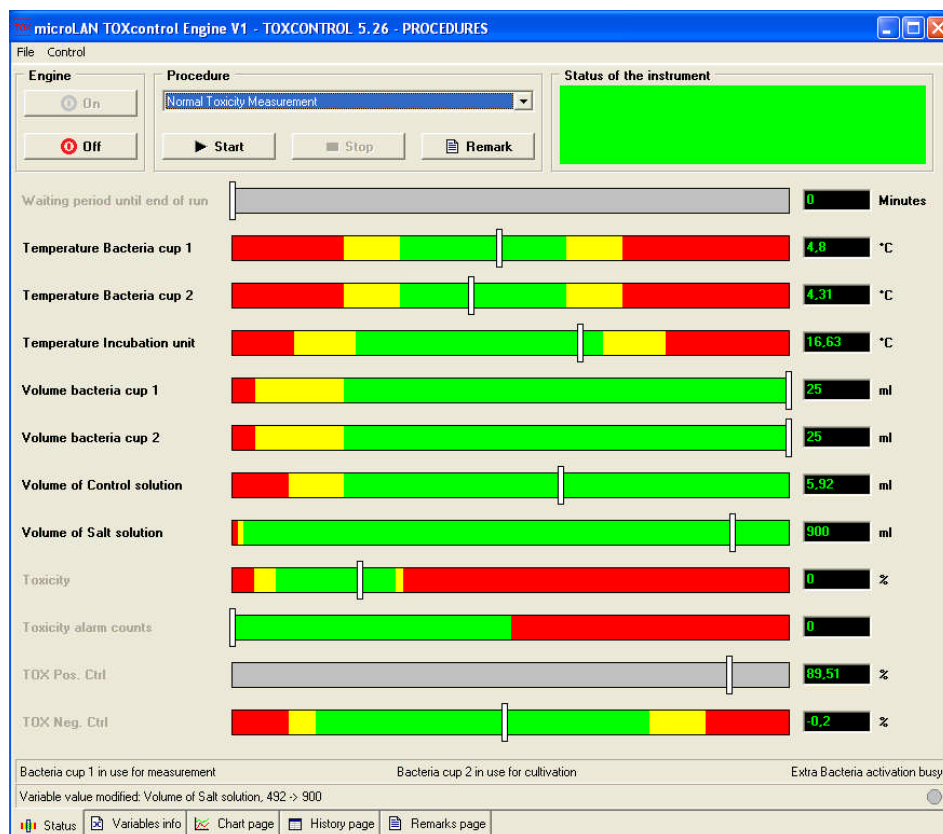


Figure 38: Status screen

The main part of this page, is the display of several gauges, with its boundaries (alarm settings and warning setting). The gauges can be displayed with or without the numbers for the boundaries. The colours represent the same conditions as described above.

Next to the gauges are the description (left side) or the name of a variable and the latest obtained value (right side). Black variable names can be changed.

The user can change a setting of a variable when clicking on the description. A new submenu will be presented.

See: § 9.9.1 Changing a variable

9.9 VARIABLES INFO SCREEN

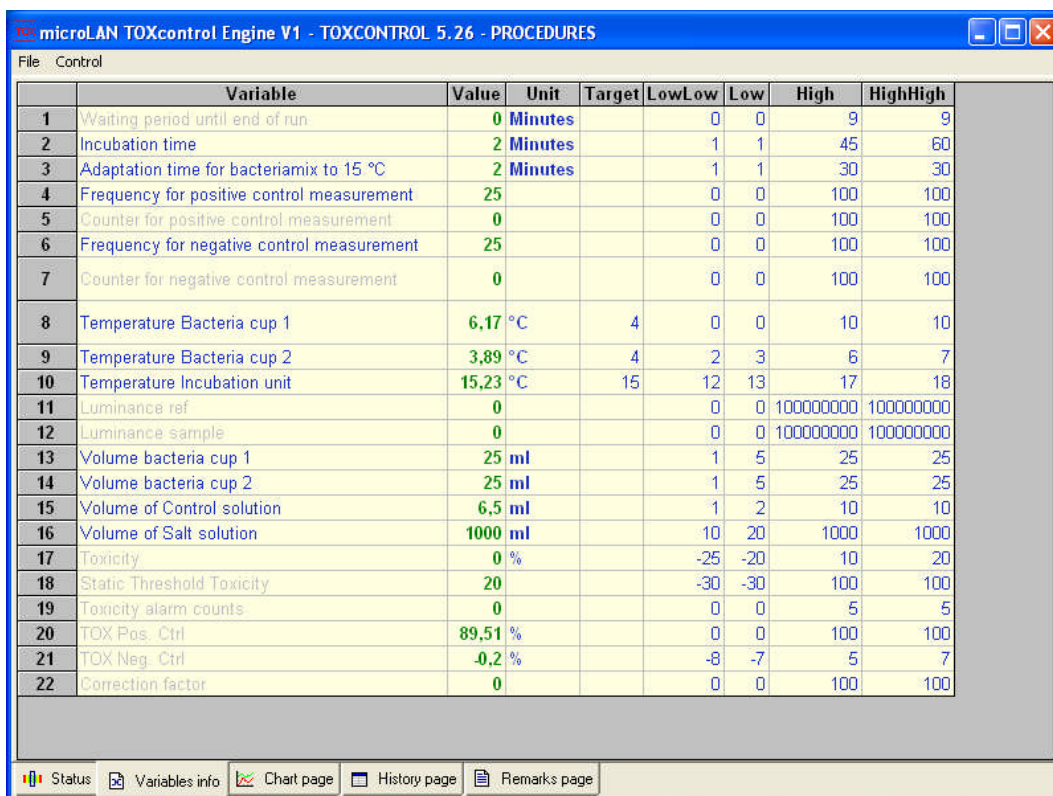
The second page (Variables info) is required to set up the TOXcontrol, like for instance the settings for alarm thresholds, temperature settings, incubation time etc. This page is user dependent. Some variables can only be set by the manager.

See also: § 11 Variable info

To show the variables info screen select “Variables info”



Figure 39: Screen selection



	Variable	Value	Unit	Target	LowLow	Low	High	HighHigh
1	Waiting period until end of run	0	Minutes		0	0	9	9
2	Incubation time	2	Minutes		1	1	45	60
3	Adaptation time for bacteriamix to 15 °C	2	Minutes		1	1	30	30
4	Frequency for positive control measurement	25			0	0	100	100
5	Counter for positive control measurement	0			0	0	100	100
6	Frequency for negative control measurement	25			0	0	100	100
7	Counter for negative control measurement	0			0	0	100	100
8	Temperature Bacteria cup 1	6,17	°C	4	0	0	10	10
9	Temperature Bacteria cup 2	3,89	°C	4	2	3	6	7
10	Temperature Incubation unit	15,23	°C	15	12	13	17	18
11	Luminance ref	0			0	0	100000000	100000000
12	Luminance sample	0			0	0	100000000	100000000
13	Volume bacteria cup 1	25	ml		1	5	25	25
14	Volume bacteria cup 2	25	ml		1	5	25	25
15	Volume of Control solution	6,5	ml		1	2	10	10
16	Volume of Salt solution	1000	ml		10	20	1000	1000
17	Toxicity	0	%		-25	-20	10	20
18	Static Threshold Toxicity	20			-30	-30	100	100
19	Toxicity alarm counts	0			0	0	5	5
20	TOX Pos. Ctrl	89,51	%		0	0	100	100
21	TOX Neg. Ctrl	-0,2	%		-8	-7	5	7
22	Correction factor	0			0	0	100	100

Figure 40: Variables info screen, User level

Note: Grey text is read only and cannot be changed

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File Control

	Variable	Value	Unit	Target	LowLow	Low	High	HighHigh
1	Waiting period until end of run	0	Minutes		0	0	9	9
2	Incubation time	2	Minutes		1	1	45	60
3	Adaptation time for bacteriamix to 15 °C	2	Minutes		1	1	30	30
4	Volume of Sample (right side)	5	ml		0	0	100	100
5	Preparation volume of bacteria (left side)	5	ml		0	0	10	10
6	Cycle time for Normal Toxicity Measurements	0	Minutes		0	0	1440	1440
7	Waiting time to start Normal Toxicity Measurement	0	Minutes		-1	-1	1440	1440
8	Frequency for positive control measurement	25			0	0	100	100
9	Counter for positive control measurement	0			0	0	100	100
10	Frequency for negative control measurement	25			0	0	100	100
11	Counter for negative control measurement	0			0	0	100	100
12	Save intermediate Luminescence readings	0			0	0	1	1
13	Volume control solution in test	40	µl		40	40	10000	10000
14	Temperature Bacteria cup 1	5,99	°C	4	0	0	10	10
15	Temperature Bacteria cup 2	5,47	°C	4	2	3	6	7
16	Temperature Incubation unit	15,05	°C	15	12	13	17	18
17	Volume of bacteria that will be taken from stock	50	µl		0	0	100	100
18	Luminance ref	0			0	0	100000000	100000000
19	Luminance sample	0			0	0	100000000	100000000
20	Low Luminance check	0			0	0	1	1
21	Volume bacteria cup 1	25	ml		1	5	25	25
22	Volume bacteria cup 2	25	ml		1	5	25	25
23	Volume of Control solution	6,5	ml		1	2	10	10
24	Volume of Salt solution	1000	ml		10	20	1000	1000
25	Toxicity	0	%		-25	-20	10	20
26	Dynamic Threshold Toxicity	100			-30	-30	100	100
27	Static Threshold Toxicity	20			-30	-30	100	100
28	Toxicity alarm counts	0			0	0	5	5
29	TOX Pos. Ctrl	89,51	%		0	0	100	100
30	TOX Neg. Ctrl	-0,2	%		-8	-7	5	7
31	Correction factor	0			0	0	100	100

Status Variables info Chart page History page Remarks page Activity page

Figure 41: Variables info screen, Manager level

Note: Grey text is read only and cannot be changed

9.9.1 Changing a variable

When clicking (left mouse button) onto a variable name (the pointer will change), it is possible to change several settings.

In the user level you are limited on setting boundaries and set points.

Variable

Name: Temperature Bacteria cup 1

Visible to manager ☒ Visible to user ☒

Value: 4,57 °C Target: 4 Hysteresis: 0,5

Minimum: 0 LowLow limit: 2 Low limit (warning): 3 High limit: 5 Alarm threshold: 6 Maximum: 10

OK Cancel

Figure 42: Changing a variable

Name: Name of the variable.

Value:	The actual value of the given variable. When filling up a bottle for instance, the user can give the correct value for the specific bottle. When the engine is in operation, this value will change every time when the instrument takes a requested amount of solution.
Minimum:	The minimum boundary for the given variable.
Low Low limit:	The lowest boundary for the given variable; the colour of the status bar is red between the low low limit and its minimum value; representing an alarm.
Low limit:	The low boundary for the given variable; the colour of the status bar is yellow between the low limit and the low low limit, representing a warning.
High limit:	The high boundary for the given variable; the colour of the status bar is green between the low and the high limit, representing a normal situation of the TOXcontrol. No messages will be presented in the status window.
Alarm threshold:	The highest boundary for the given variable; the colour of the status bar will be yellow between the high and the high high limit; representing a warning. (High High limit)
Maximum:	The maximum range of the given variable; the colour of the status bar is red between the high high and the maximum value; representing an alarm.
Hysteresis:	Boundary for error messages.
Target:	The value for the TOXcontrol instrument to be set; the value field is grey and cannot be changed.
Visible to user:	Checkbox on, variable visible for user.
Visible to manager:	Checkbox on, variable only visible for manager.

The user can set the different boundaries to his requirements. It is possible to set the status bar in which no warnings must be given or a direct alarm must be presented.

The alarm is only used when the toxicity is beyond the preset alarm values. When the user changes a parameter in a variable, the change of original value to the requested value is saved into the database.

 See: § 12.2.1 File menu

Remarks page screen

If the user has changed the value and has acknowledged it by selecting the OK button, the following message will be displayed:

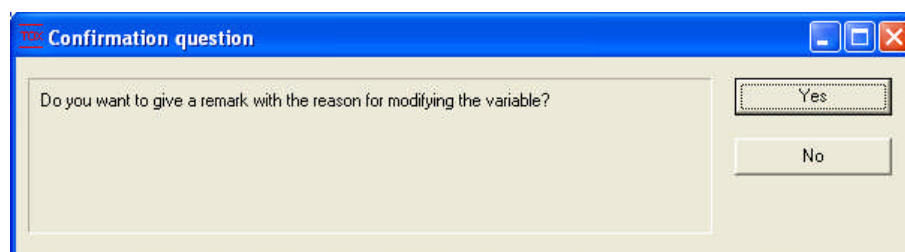



Figure 43: Change a variable - Remark question

When selecting YES, a remark can be given.

 See: § 9.4.3 Add a remark

This page will be displayed, depending if the engine is set to user or manager mode. Variable names displayed in blue, are variables in which values can be changed. Grey displayed variables only give information (values) obtained from TOXcontrol. Values displayed in green are normal, in yellow as warning and in red as an error.

9.10 CHART PAGE SCREEN

This page presents the results of a given period in several graphs. Using the period selector, this page can present the latest results online or one can select a different period to look in the history graphically.

 See: § 9.6.15 Selection of period

To show the chart page screen select “Chart page”



Figure 44: Screen selection; Chart page

This page will show the results of TOXcontrol in a given period. The user can select a different chart setup, which microLAN can provide or a manager has made in TOXview.

Available charts:

Figure 46: Chart page screen; Toxicity

Figure 47: Chart page screen; Toxicity Detailed

Figure 50: Chart page screen; Temperatures

Figure 51: Chart page screen; Direct Luminescence

Figure 48: Chart page screen; S::can*

Figure 49: Chart page screen; S::can + Toxicity*

***Note: These charts are only available in combination with a S::can Spectro::lyser UV-VIS sensor**

Show legend checkbox can hide or show the chart legend.

It's also possible to hide certain variables in the charts by de-activating the belonging checkbox.



Figure 45: Show legend

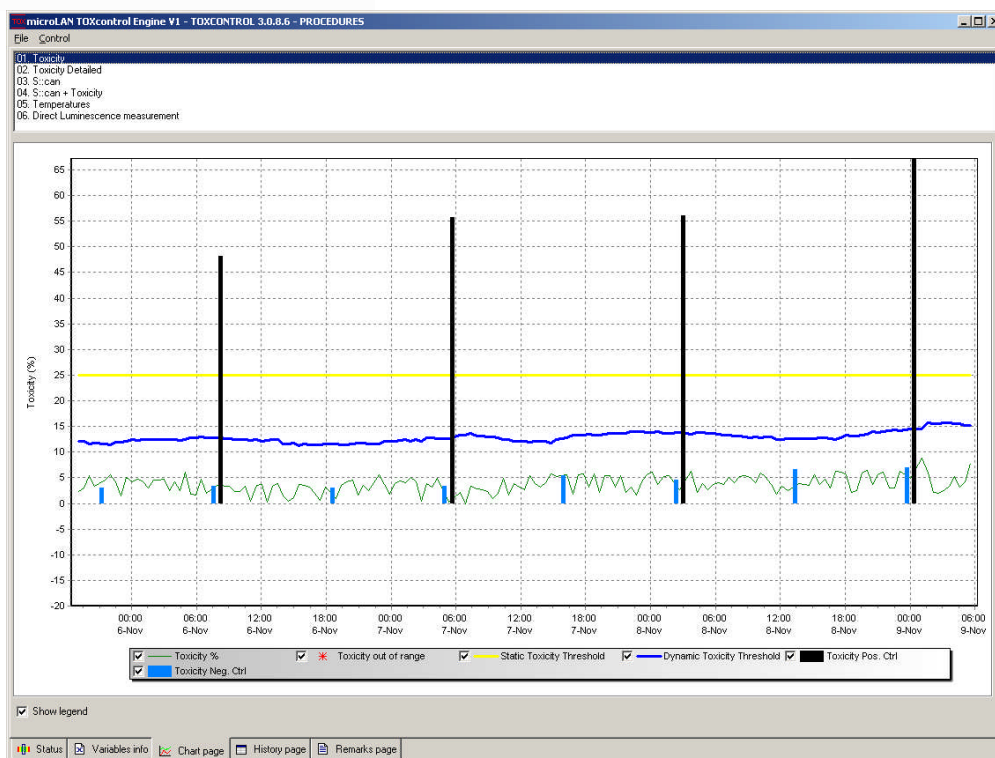


Figure 46: Chart page screen; Toxicity

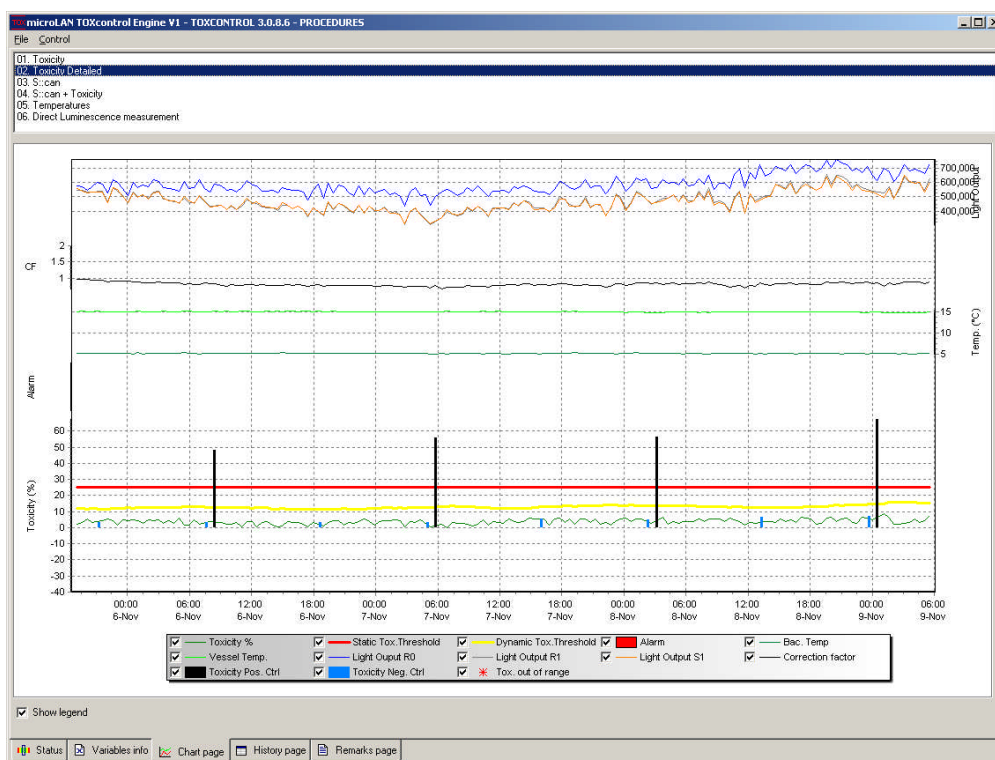


Figure 47: Chart page screen; Toxicity Detailed

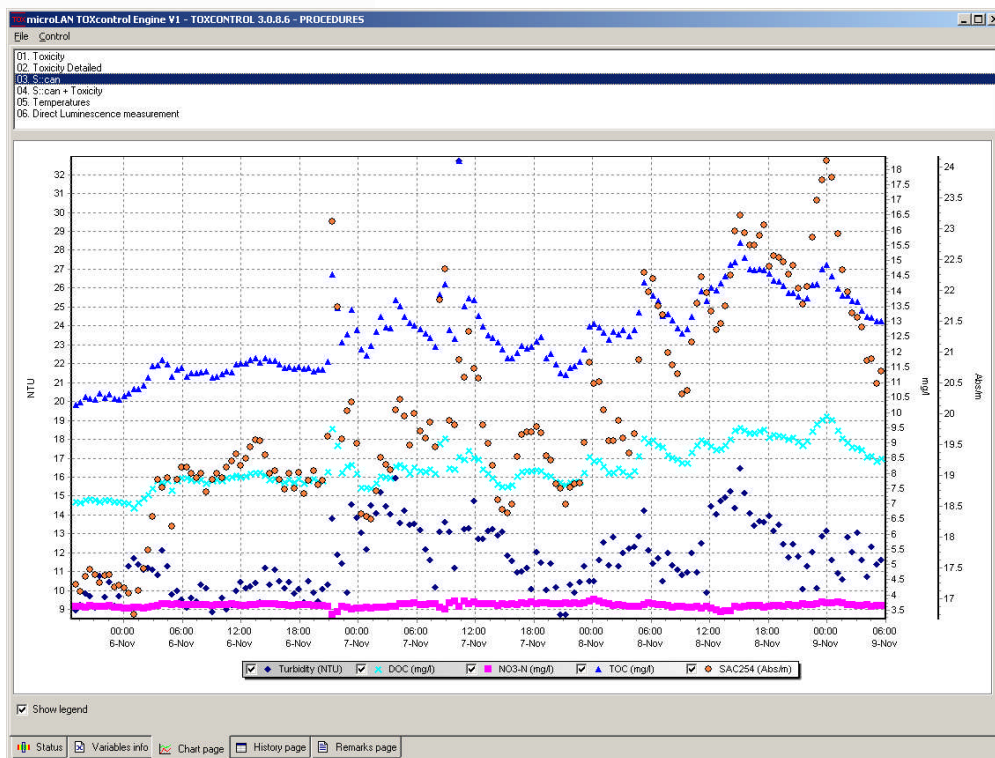


Figure 48: Chart page screen; S::can

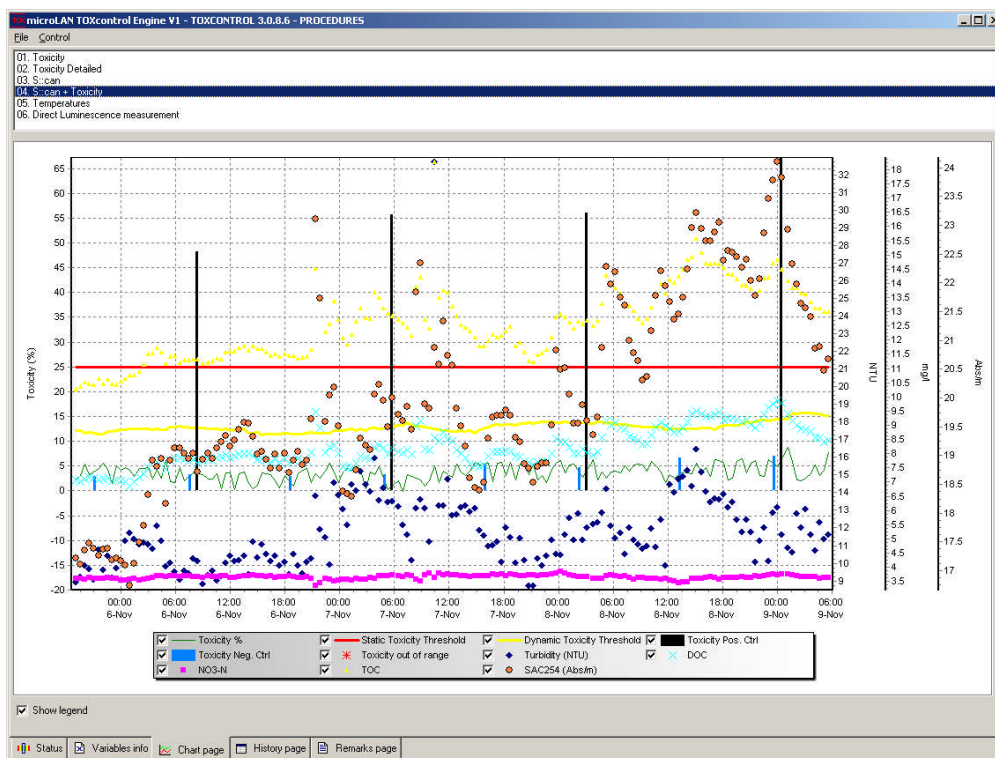


Figure 49: Chart page screen; S::can + Toxicity

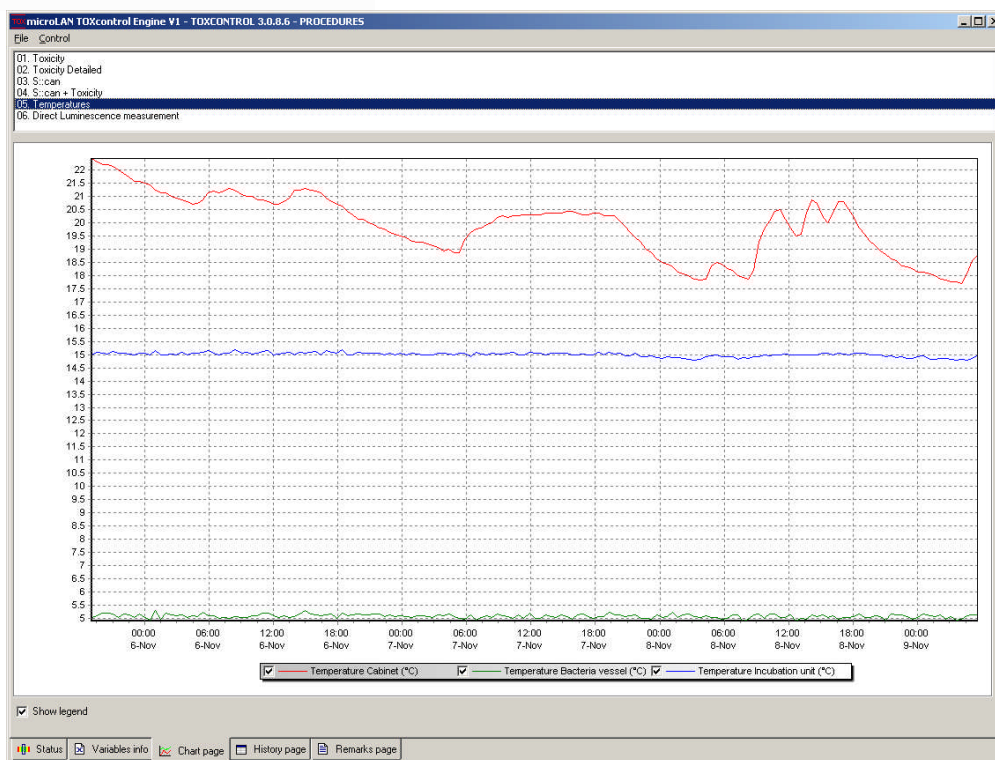


Figure 50: Chart page screen; Temperatures

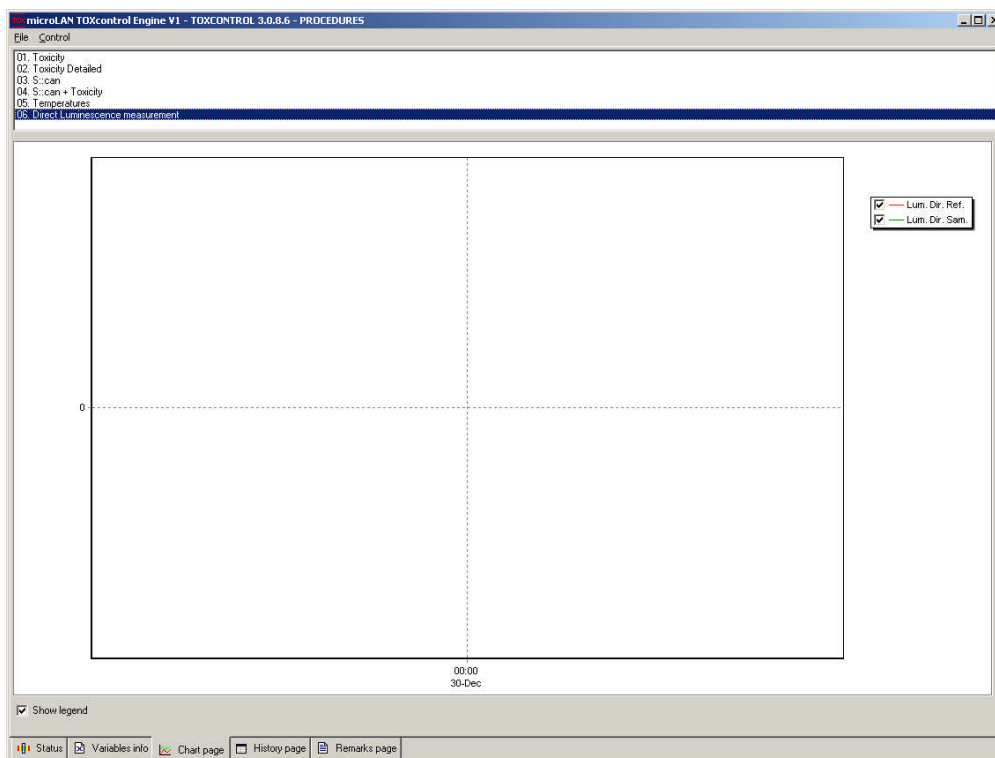



Figure 51: Chart page screen; Direct Luminescence

Using TOXview software, a group of data can be saved into a graphic file, for further analysis. The exported data is depending on the time frame selected in the period selector.

 See: § 12.2.1 File menu

9.11 HISTORY PAGE SCREEN

Using the history page, the user and manager can look back for data which has been saved into the database.

To show the history page screen select “History page”



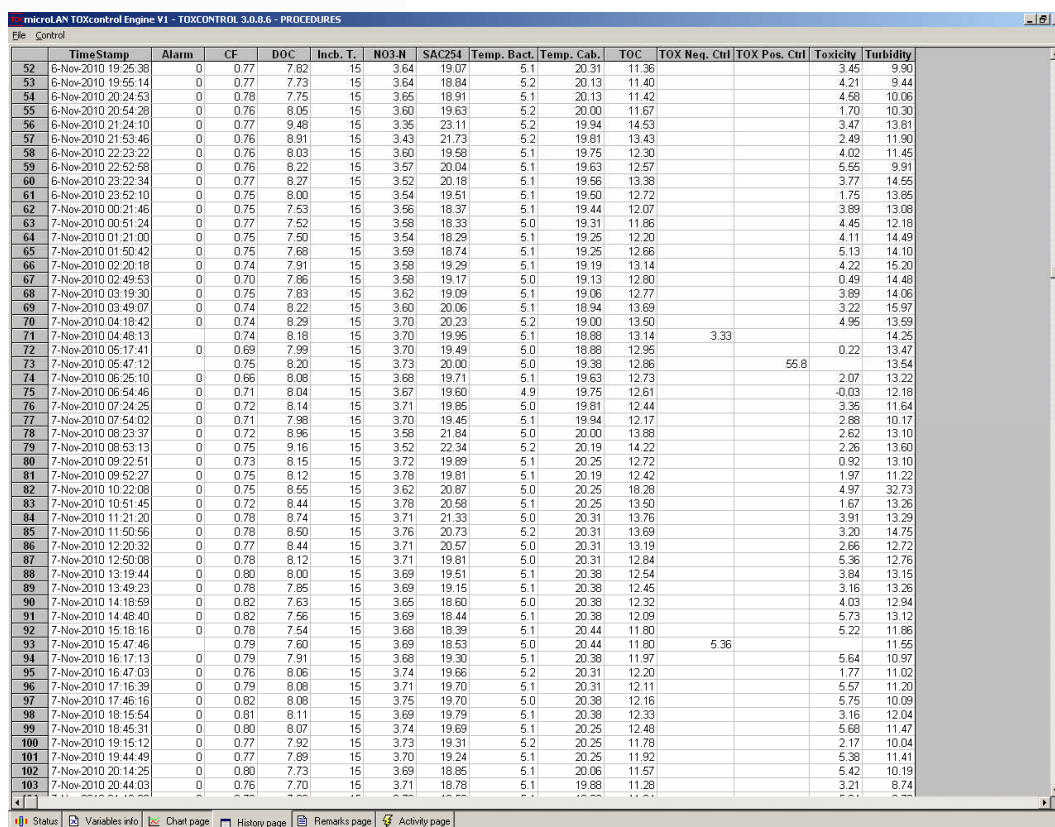
Figure 52: Screen selection; History page

This page presents the results of a given period in tables. Using the period selector, this page can present the latest results online or one can select a different period to look into the history table.

See: § 9.6.15 Selection of period

microLAN TOXcontrol Engine V1 - TOXCONTROL 3.0.0.6 - PROCEDURES														
Time Stamp	Alarm	CF	Inch. T.	Lum. Ref. T0	Lum. Ref. T1	Lum. Sam. T0	Lum. Sam. T1	Temp. Bact.	Temp. Cab.	TOX Neg. Ctl	TOX Pos. Ctl	Toxicity		
128	8-Nov-2010 09:12:25	0	0.79	15	596523	471765	617198	461437	5.2	19.25				
129	8-Nov-2010 09:42:00	0	0.76	15	595323	452900	613646	448266	5.0	19.75				3.97
130	8-Nov-2010 10:11:41	0	0.72	15	558915	403221	573609	389569	5.2	20.06				5.86
131	8-Nov-2010 10:41:14	0	0.75	15	658488	495911	673280	481514	5.2	20.44				5.04
132	8-Nov-2010 11:10:49	0	0.78	15	693636	541164	711172	534121	5.0	20.50				3.74
133	8-Nov-2010 11:40:25	0	0.68	15	564852	386237	568711	382033	5.0	20.13				1.76
134	8-Nov-2010 12:10:00	0	0.78	15	672418	523911	693918	522555	5.2	19.81				3.35
135	8-Nov-2010 12:39:39	0	0.75	15	628964	471860	631814	462018	4.9	19.50				2.53
136	8-Nov-2010 13:09:06		0.86	15	725074		738541		5.0	19.56	6.61			
137	8-Nov-2010 13:38:34	0	0.79	15	644640	509676	656164	499014	5.0	20.38				3.81
138	8-Nov-2010 14:09:09	0	0.76	15	666371	508082	683695	501913	5.1	20.88				3.72
139	8-Nov-2010 14:37:57	0	0.81	15	715896	562605	748277	587815	5.1	20.75				3.47
140	8-Nov-2010 15:07:30	0	0.83	15	700991	592663	729333	572030	5.1	20.25				5.64
141	8-Nov-2010 15:37:05	0	0.81	15	886139	569957	704736	552691	5.0	20.00				3.73
142	8-Nov-2010 16:06:43	0	0.85	15	723737	612304	739738	596453	5.1	20.38				4.70
143	8-Nov-2010 16:36:17	0	0.79	15	666652	524179	679999	518881	5.0	20.81				2.95
144	8-Nov-2010 17:05:56	0	0.83	15	700453	580577	724593	562683	5.0	20.81				6.31
145	8-Nov-2010 17:35:30	0	0.83	15	726962	606123	750103	586969	5.0	20.50				6.15
146	8-Nov-2010 18:05:04	0	0.80	15	716596	572549	745937	563164	5.1	20.19				5.51
147	8-Nov-2010 18:34:40	0	0.81	15	677804	547492	692454	546887	5.2	19.81				2.22
148	8-Nov-2010 19:04:14	0	0.81	15	700067	564659	718636	585278	5.0	19.66				2.46
149	8-Nov-2010 19:33:47	0	0.87	15	758954	658827	783880	639974	5.0	19.31				5.95
150	8-Nov-2010 20:03:22	0	0.84	15	706081	591611	723284	568889	5.1	19.13				6.46
151	8-Nov-2010 20:32:59	0	0.86	15	764167	654217	785909	648507	5.1	18.94				3.62
152	8-Nov-2010 21:02:33	0	0.87	15	740595	644354	755183	620249	4.9	18.81				5.60
153	8-Nov-2010 21:32:13	0	0.86	15	726472	622899	741370	597134	5.2	18.63				6.06
154	8-Nov-2010 22:01:47	0	0.82	15	683253	562862	686316	547895	5.1	18.56				3.10
155	8-Nov-2010 22:31:21	0	0.84	15	702193	588954	719603	585621	5.1	18.30				2.94
156	8-Nov-2010 23:00:55	0	0.84	15	670181	565941	692022	547969	5.1	18.31				6.25
157	8-Nov-2010 23:30:24	0	0.88	15	712907		741688		5.0	18.25	6.94			
158	8-Nov-2010 23:59:52	0	0.83	15	650496	542790	672191	533719	5.0	18.13				4.84
159	9-Nov-2010 00:29:25		0.84	15	616602		629578		5.2	18.13			67.2	
160	9-Nov-2010 01:07:23	0	0.75	15	704243	526877	724948	494454	5.1	18.06				8.83
161	9-Nov-2010 01:37:04	0	0.84	15	679223	570169	703831	556030	5.1	18.00				5.89
162	9-Nov-2010 02:06:41	0	0.80	15	610143	489015	621482	487071	5.1	17.88				2.21
163	9-Nov-2010 02:36:17	0	0.84	15	653533	546887	678732	555949	5.0	17.81				1.97
164	9-Nov-2010 03:05:54	0	0.86	15	724319	636889	757480	649148	5.1	17.75				2.53
165	9-Nov-2010 03:35:30	0	0.88	15	685574	605033	716545	610942	4.9	17.75				3.39
166	9-Nov-2010 04:05:06	0	0.88	15	692760	609069	715269	598835	5.0	17.69				5.25
167	9-Nov-2010 04:34:43	0	0.87	15	684504	596587	709690	599311	5.1	18.06				3.11
168	9-Nov-2010 05:04:21	0	0.82	15	661597	544154	679295	535432	5.1	18.56				4.17
169	9-Nov-2010 05:33:57	0	0.87	15	732198	634865	755855	604186	5.1	18.75				7.81
170														
171	Count	155	167	167	167	155	167	155	167	167	8	4	155	
172	Minimum	0	0.66	15	434395	303753	447978	308661	4.9	17.69	2.96	48.2	-0.03	
173	Maximum	0	0.97	15	764167	658827	785909	649148	5.3	22.44	6.94	67.2	8.83	
174	Average	0.0	0.803	15.0	590967.6	474736.3	610573.2	471731.0	5.08	19.902	4.52	56.83	3.726	
175	Quantity													
176	Std. Dev.	0.0	0.056	0.0	66077.0	73707.0	67484.1	70174.9	0.08	1.176	1.623	7.85	1.609	
177	Variance	0.0%	0.0%	0.0%	4392289.0	5432669.0	4553689.0	4924511420.2%	0.01%	1.38%	2.63%	61.58%	2.59%	
178														

Figure 53: History page screen; User level



	TimeStamp	Alarm	CF	DOC	Incub. T.	NO3-N	SAC254	Temp. Bact.	Temp. Cab.	TOC	TOX Neg. Cnt	TOX Pos. Cnt	Toxicity	Turbidity
52	6-Nov-2010 19:25:30	0	0.77	7.82	15	3.64	19.07	5.1	20.31	11.36			3.45	9.90
53	6-Nov-2010 19:55:14	0	0.77	7.73	15	3.64	18.84	5.2	20.13	11.40			4.21	9.44
54	6-Nov-2010 20:24:53	0	0.78	7.75	15	3.65	18.91	5.1	20.13	11.42			4.58	10.06
55	6-Nov-2010 20:54:28	0	0.76	8.05	15	3.60	19.63	5.2	20.00	11.67			1.70	10.30
56	6-Nov-2010 21:24:10	0	0.77	9.48	15	3.35	23.11	5.2	19.94	14.53			3.47	13.81
57	6-Nov-2010 21:53:46	0	0.76	8.91	15	3.43	21.73	5.2	19.81	13.43			2.49	11.90
58	6-Nov-2010 22:23:22	0	0.76	8.03	15	3.60	19.58	5.1	19.75	12.30			4.02	11.45
59	6-Nov-2010 22:52:58	0	0.76	8.22	15	3.57	20.04	5.1	19.63	12.57			5.55	9.91
60	6-Nov-2010 23:22:34	0	0.77	8.27	15	3.52	20.18	5.1	19.56	13.38			3.77	14.55
61	6-Nov-2010 23:52:10	0	0.75	8.00	15	3.54	19.51	5.1	19.50	12.72			1.75	13.85
62	7-Nov-2010 00:21:46	0	0.75	7.53	15	3.56	18.37	5.1	19.44	12.07			3.89	13.08
63	7-Nov-2010 00:51:24	0	0.77	7.52	15	3.58	18.33	5.0	19.31	11.86			4.45	12.18
64	7-Nov-2010 01:21:00	0	0.75	7.50	15	3.54	18.29	5.1	19.25	12.20			4.11	14.49
65	7-Nov-2010 01:50:42	0	0.75	7.68	15	3.59	18.74	5.1	19.25	12.66			5.13	14.10
66	7-Nov-2010 02:20:18	0	0.74	7.91	15	3.58	19.29	5.1	19.19	13.14			4.22	15.20
67	7-Nov-2010 02:49:53	0	0.70	7.86	15	3.58	19.17	5.0	19.13	12.80			0.49	14.48
68	7-Nov-2010 03:19:30	0	0.75	7.83	15	3.62	19.09	5.1	19.06	12.77			3.69	14.06
69	7-Nov-2010 03:49:07	0	0.74	8.22	15	3.60	20.06	5.1	18.94	13.69			3.22	15.97
70	7-Nov-2010 04:18:42	0	0.74	8.29	15	3.70	20.23	5.2	19.00	13.50			4.95	13.59
71	7-Nov-2010 04:48:13		0.74	8.18	15	3.70	19.95	5.1	18.88	13.14	3.33			14.25
72	7-Nov-2010 05:17:41	0	0.69	7.99	15	3.70	19.49	5.0	18.88	12.95			0.22	13.47
73	7-Nov-2010 05:47:12		0.75	8.20	15	3.73	20.00	5.0	19.38	12.86		55.8		13.54
74	7-Nov-2010 06:25:10	0	0.66	8.08	15	3.68	19.71	5.1	19.63	12.73			2.07	13.22
75	7-Nov-2010 06:54:46	0	0.71	8.04	15	3.67	19.60	4.9	19.75	12.61			-0.03	12.18
76	7-Nov-2010 07:24:25	0	0.72	8.14	15	3.71	19.65	5.0	19.81	12.44			3.35	11.64
77	7-Nov-2010 07:54:02	0	0.71	7.98	15	3.70	19.45	5.1	19.94	12.17			2.88	10.17
78	7-Nov-2010 08:23:37	0	0.72	8.96	15	3.58	21.84	5.0	20.00	13.88			2.62	13.10
79	7-Nov-2010 08:53:13	0	0.75	9.16	15	3.52	22.34	5.2	20.19	14.22			2.26	13.60
80	7-Nov-2010 09:22:51	0	0.73	8.15	15	3.72	19.89	5.1	20.25	12.72			0.92	13.10
81	7-Nov-2010 09:52:27	0	0.75	8.12	15	3.78	19.81	5.1	20.19	12.42			1.97	11.22
82	7-Nov-2010 10:22:08	0	0.75	8.55	15	3.62	20.87	5.0	20.25	18.28			4.97	32.73
83	7-Nov-2010 10:51:45	0	0.72	8.44	15	3.78	20.58	5.1	20.25	13.50			1.67	13.26
84	7-Nov-2010 11:21:20	0	0.78	8.74	15	3.71	21.33	5.0	20.31	13.76			3.91	13.29
85	7-Nov-2010 11:50:56	0	0.78	8.50	15	3.76	20.73	5.2	20.31	13.69			3.20	14.75
86	7-Nov-2010 12:20:32	0	0.77	8.44	15	3.71	20.57	5.0	20.31	13.19			2.66	12.72
87	7-Nov-2010 12:50:08	0	0.78	8.12	15	3.71	19.81	5.0	20.31	12.84			5.36	12.76
88	7-Nov-2010 13:19:44	0	0.80	8.00	15	3.69	19.51	5.1	20.38	12.54			3.84	13.15
89	7-Nov-2010 13:49:23	0	0.78	7.85	15	3.69	19.15	5.1	20.38	12.45			3.16	13.26
90	7-Nov-2010 14:18:59	0	0.82	7.63	15	3.65	18.60	5.0	20.38	12.32			4.03	12.94
91	7-Nov-2010 14:48:40	0	0.82	7.56	15	3.69	18.44	5.1	20.38	12.09			5.73	13.12
92	7-Nov-2010 15:18:16	0	0.78	7.54	15	3.68	18.39	5.1	20.44	11.80			5.22	11.86
93	7-Nov-2010 15:47:46	0	0.79	7.60	15	3.69	18.53	5.0	20.44	11.80			11.55	
94	7-Nov-2010 16:17:13	0	0.79	7.91	15	3.68	19.30	5.1	20.38	11.97	5.36		5.64	10.97
95	7-Nov-2010 16:47:03	0	0.76	8.06	15	3.74	19.66	5.2	20.31	12.20			1.77	11.02
96	7-Nov-2010 17:16:39	0	0.79	8.08	15	3.71	19.70	5.1	20.31	12.11			5.57	11.20
97	7-Nov-2010 17:46:16	0	0.82	8.08	15	3.75	19.70	5.0	20.38	12.16			5.75	10.09
98	7-Nov-2010 18:15:54	0	0.81	8.11	15	3.69	19.79	5.1	20.38	12.33			3.16	12.04
99	7-Nov-2010 18:45:31	0	0.80	8.07	15	3.74	19.69	5.1	20.25	12.48			5.68	11.47
100	7-Nov-2010 19:15:12	0	0.77	7.92	15	3.73	19.31	5.2	20.25	11.78			2.17	10.04
101	7-Nov-2010 19:44:49	0	0.77	7.89	15	3.70	19.24	5.1	20.25	11.92			5.36	11.41
102	7-Nov-2010 20:14:25	0	0.80	7.73	15	3.69	18.85	5.1	20.06	11.57			5.42	10.19
103	7-Nov-2010 20:44:03	0	0.76	7.70	15	3.71	18.78	5.1	19.88	11.28			3.21	8.74

Figure 54: History page screen; Manager level

Using TOXview software, a group of data can be saved into a spreadsheet file, for further analysis. The data exported is depending on the time frame selected in the period selector.

See: § 12.2.1 File menu

9.12 REMARKS PAGE SCREEN

The remarks page will provide the user specific information in different operation groups.

To show the remarks page screen select “Remarks page”



Figure 55: Screen selection; Remark page

See: § 9.4.3 Add a remark

Available remark pages:

Figure 56: Remarks page; Alarms

Figure 57: Remarks page; Maintenance

Figure 58: Remarks page; Message from program

Figure 59: Remarks page; Variable modified

Also available: “Data evaluation” and “Fault/error” remarks.

microLAN TOXcontrol Engine V1 - TOXCONTROL 3.0.8.6 - PROCEDURES

File Control

Alarm
Data evaluation
Fault/Error
Maintenance
Message from program
Variable modified

Timestamp	Subject	Remark	Comment
2010/11/09 06:31:47	Low limit exceeded	Volume bacteria	6 < 6
2010/11/10 10:53:07	High limit exceeded	Toxicity	20.52 > 20
2010/11/10 10:53:08	Alarm	Toxicity	20.52 > 11.0497211875569
2010/11/10 10:53:18	Alarm solved	Toxicity	20.52 < 25
2010/11/10 11:22:43	High limit exceeded solved	Toxicity	10.33 < 20
2010/11/11 08:14:17	Alarm	Toxicity	19 > 10.7871417037606
2010/11/11 08:14:27	Alarm solved	Toxicity	19 < 25
2010/11/12 05:35:23	Alarm	Toxicity	13.18 > 10.41564581915
2010/11/12 05:35:33	Alarm solved	Toxicity	13.18 < 25
2010/11/13 22:54:41	Low/Low limit exceeded	Toxicity	-25.3 < -20
2010/11/13 23:24:16	Low/Low limit solved	Toxicity	-9.26 > -20
2010/11/13 23:53:52	Low/Low limit exceeded	Toxicity	-27.4 < -20
2010/11/14 00:23:31	Minimum range exceeded	Toxicity	-44.96 < -30
2010/11/14 01:52:07	Minimal range exceeded s	Toxicity	6.17 > -30
2010/11/14 01:52:07	Low/Low limit solved	Toxicity	6.17 > -20
2010/11/14 02:59:41	Minimum range exceeded	Toxicity	-41.92 < -30
2010/11/15 10:12:48	Minimal range exceeded s	Toxicity	11.59 > -30
2010/11/15 14:09:49	Low limit exceeded	Toxicity	-16.33 < -15
2010/11/15 14:30:24	Minimum range exceeded	Toxicity	-50.3 < -30
2010/11/15 15:09:01	Minimal range exceeded s	Toxicity	8.44 > -30
2010/11/15 15:09:01	Low limit exceeded solved	Toxicity	8.44 > -15
2010/11/15 15:38:40	Low limit exceeded	Toxicity	-15.33 < -15
2010/11/15 16:08:18	Minimum range exceeded	Toxicity	-49.55 < -30
2010/11/15 16:37:57	Minimal range exceeded s	Toxicity	-15.67 > -30
2010/11/15 17:07:32	Low limit exceeded solved	Toxicity	12.9 > -15
2010/11/15 20:05:05	Alarm	TOX Neg. Ctrl	11.08 > 10
2010/11/15 22:41:20	Low limit exceeded	Toxicity	-16.92 < -15
2010/11/15 23:10:56	Minimum range exceeded	Toxicity	-70.1 < -30
2010/11/16 05:35:55	Minimum range exceeded	Intermediate Toxicity	-110.67 < -100
2010/11/16 05:51:41	Minimal range exceeded s	Intermediate Toxicity	-40.73 > -100
2010/11/16 06:03:29	Minimum range exceeded	Intermediate Toxicity	-105.3 < -100
2010/11/16 06:21:18	Minimal range exceeded s	Intermediate Toxicity	-47.28 > -100
2010/11/16 06:32:06	Minimum range exceeded	Intermediate Toxicity	-101.58 < -100
2010/11/16 06:50:44	Minimal range exceeded s	Intermediate Toxicity	3.45 > -100
2010/11/16 07:04:53	Alarm solved	TOX Neg. Ctrl	6.38 < 10
2010/11/16 07:32:10	Minimum range exceeded	Intermediate Toxicity	-106.93 < -100
2010/11/16 07:50:04	Minimal range exceeded s	Intermediate Toxicity	-39.45 > -100
2010/11/16 08:02:53	Minimum range exceeded	Intermediate Toxicity	-111.1 < -100
2010/11/16 08:19:41	Minimal range exceeded s	Intermediate Toxicity	-4.93 > -100
2010/11/16 10:16:16	Maximum range exceeded	Turbidity	130.53 > 100
2010/11/17 02:38:59	Minimum range exceeded	Toxicity	-59.64 < -30
2010/11/17 06:35:55	Minimal range exceeded s	Toxicity	-14.38 > -30
2010/11/17 07:05:32	Minimum range exceeded	Toxicity	-54.28 < -30
2010/11/17 09:03:00	Low limit exceeded	Toxicity	-10.95 < -20

Status Variables info Chart page History page Remarks page Activity page

Figure 56: Remarks page; Alarms

microLAN TOXcontrol Engine V1 - TOXCONTROL 3.0.8.6 - PROCEDURES

File Control

Alarm
Data evaluation
Fault/Error
Maintenance
Message from program
Variable modified

Timestamp	Subject	Remark	Comment
2010/11/09 10:09:51	Maintenance	Maintenance: Syringes replaced	
2010/11/09 10:09:09	Maintenance	Maintenance: Bottle salt refilled	
2010/11/09 10:09:23	Maintenance	Maintenance: Control solution refilled	
2010/11/09 10:23:24	Maintenance	Maintenance: Bacteria refilled	Bact. L022040x in med. 0082 d.d. 05-11-2010
2010/11/16 10:02:52	Maintenance	Maintenance: Syringes replaced	
2010/11/16 10:03:10	Maintenance	Maintenance: Bottle salt refilled	
2010/11/16 10:03:32	Maintenance	Maintenance: Control solution refilled	
2010/11/16 10:15:46	Maintenance	Maintenance: Bacteria refilled	Bac. L022040x in med. 584 d.d. 12-11-2010
2010/11/23 11:21:27	Maintenance	Maintenance: Bottle salt refilled	
2010/11/23 11:21:35	Maintenance	Maintenance: Syringes replaced	
2010/11/23 11:21:53	Maintenance	Maintenance: Control solution refilled	
2010/11/23 11:22:06	Maintenance	Maintenance: Bottle salt refilled	
2010/11/23 11:35:57	Maintenance	Maintenance: Bacteria refilled	bact. L022043x in med. 584 d.d. 19-11-2010
2010/11/30 12:04:40	Maintenance	Maintenance: Bottle salt refilled	
2010/11/30 12:04:52	Maintenance	Maintenance: Control solution refilled	
2010/11/30 12:05:06	Maintenance	Maintenance: Syringes replaced	
2010/11/30 12:06:15	Maintenance	Maintenance: Bacteria refilled	Bac. L022043x in med. 584 d.d. 26-11-2010

Status Variables info Chart page History page Remarks page Activity page

Figure 57: Remarks page; Maintenance

microLAN TOXcontrol Engine V1 - TOXCONTROL 3.0.8.6 - PROCEDURES

File Control

Alarm
Data evaluation
Fault/Error
Maintenance
Message from program
Variable modified

Timestamp	Subject	Remark	Comment
2010/11/23 17:27:33	Message from program	Program for Toxcontrol has been stopped	
2010/11/23 17:36:47	Message from program	Program for Toxcontrol has been started	
2010/11/23 17:40:08	Message from program	Engine started	
2010/11/23 17:40:38	Message from program	Procedure started	Rinsing the instrument
2010/11/23 17:44:35	Message from program	Procedure stopped	
2010/11/23 17:45:01	Message from program	Procedure started	Normal Toxicity Measurement
2010/11/23 17:46:47	Message from program	Procedure stopped	
2010/11/24 14:56:26	Message from program	Engine stopped	
2010/11/24 14:56:28	Message from program	Program for Toxcontrol has been stopped	
2010/11/24 14:59:18	Message from program	Program for Toxcontrol has been started	
2010/11/24 15:02:47	Message from program	Engine started	
2010/11/24 15:03:09	Message from program	Procedure started	Normal Toxicity Measurement
2010/11/24 17:01:23	Message from program	Procedure stopped	
2010/11/24 17:07:34	Message from program	Program for Toxcontrol has been started	
2010/11/24 17:07:53	Message from program	Engine started	
2010/11/24 17:10:20	Message from program	Procedure started	Normal Toxicity Measurement
2010/11/25 11:34:23	Message from program	Log on as service manager	
2010/11/25 11:34:51	Message from program	Log off service manager	
2010/11/20 23:32:20	Message from program	Log on as service manager	
2010/11/28 23:35:46	Message from program	Log off service manager	
2010/11/29 17:13:11	Message from program	Procedure stopped	
2010/11/29 17:13:10	Message from program	Engine stopped	
2010/11/29 17:13:22	Message from program	Program for Toxcontrol has been stopped	
2010/11/29 17:16:26	Message from program	Program for Toxcontrol has been started	
2010/11/29 17:16:37	Message from program	Engine started	
2010/11/29 17:18:40	Message from program	Procedure started	Rinsing the instrument
2010/11/29 17:22:35	Message from program	Procedure stopped	
2010/11/29 17:35:46	Message from program	Procedure started	Rinsing the instrument
2010/11/29 17:39:59	Message from program	Procedure stopped	
2010/11/29 17:41:53	Message from program	Procedure started	Normal Toxicity Measurement
2010/11/30 09:08:14	Message from program	Procedure stopped	
2010/11/30 11:46:20	Message from program	Procedure started	Maintenance: Replacing syringes
2010/11/30 11:57:53	Message from program	Procedure stopped	
2010/11/30 11:58:07	Message from program	Procedure started	Maintenance: Adjust Tip height
2010/11/30 11:58:07	Message from program	Procedure stopped	
2010/11/30 12:06:59	Message from program	Procedure started	Rinsing the instrument
2010/11/30 12:07:32	Message from program	Log on as service manager	
2010/11/30 12:10:57	Message from program	Procedure stopped	
2010/11/30 12:16:56	Message from program	Log off service manager	
2010/11/30 12:17:49	Message from program	Procedure started	Normal Toxicity Measurement
2010/11/30 12:46:43	Message from program	Log on as service manager	
2010/11/30 12:48:06	Message from program	Log off service manager	
2010/12/06 14:43:26	Message from program	Log on as manager	

Status Variables info Chart page History page Remarks page **Activity page**

Figure 58: Remarks page; Message from program

microLAN TOXcontrol Engine V1 - TOXCONTROL 3.0.8.6 - PROCEDURES

File Control

Alarm
Data evaluation
Fault/Error
Maintenance
Message from program
Variable modified

Timestamp	Subject	Remark	Comment
2010/11/09 10:09:00	Variable value modified	Volume of Salt solution	349 → 1000
2010/11/09 10:09:17	Variable value modified	Volume of Control solution	6.64 → 7
2010/11/09 10:21:57	Variable value modified	Volume bacteria	5.7 → 25
2010/11/09 10:25:23	Variable value modified	Counter for positive control measurement	17 → 37
2010/11/16 10:03:02	Variable value modified	Volume of Salt solution	340 → 1000
2010/11/16 10:03:26	Variable value modified	Volume of Control solution	6.68 → 7
2010/11/16 10:15:11	Variable value modified	Volume bacteria	8.5 → 25
2010/11/16 10:16:51	Variable value modified	Counter for positive control measurement	22 → 37
2010/11/16 10:17:03	Variable value modified	Counter for negative control measurement	3 → 18
2010/11/17 18:16:27	Variable value modified	Position sample	860 → 285
2010/11/19 12:23:06	Variable value modified	Position sample	285 → 860
2010/11/20 18:27:31	Variable value modified	Position sample	860 → 285
2010/11/23 11:21:45	Variable value modified	Volume of Control solution	6.68 → 7
2010/11/23 11:21:58	Variable value modified	Volume of Salt solution	326 → 1000
2010/11/23 11:35:16	Variable value modified	Volume bacteria	8.15 → 25
2010/11/23 11:36:26	Variable value modified	Counter for positive control measurement	29 → 38
2010/11/23 11:36:36	Variable value modified	Counter for negative control measurement	10 → 17
2010/11/23 11:59:03	Variable value modified	Counter for positive control measurement	38 → 36
2010/11/23 11:59:24	Variable value modified	Position sample	205 → 000
2010/11/29 13:22:53	Variable value modified	Frequency for negative control measurement	20 → 10
2010/11/30 12:04:32	Variable value modified	Volume of Salt solution	340 → 1000
2010/11/30 12:04:46	Variable value modified	Volume of Control solution	6.68 → 7
2010/11/30 12:05:37	Variable value modified	Volume bacteria	8.5 → 25
2010/11/30 12:07:58	Variable value modified	Counter for positive control measurement	16 → 37
2010/11/30 12:08:08	Variable value modified	Counter for negative control measurement	7 → 8
2010/11/30 12:16:40	Variable value modified	Frequency for negative control measurement	10 → 20
2010/11/30 12:16:47	Variable value modified	Counter for negative control measurement	8 → 18

Status Variables info Chart page History page Remarks page **Activity page**

Figure 59: Remarks page; Variable modified

9.13 ACTIVITY PAGE SCREEN

The activity page displays the different commands the TOXcontrol is performing when a program is activated.

Note: This page is only available in Manager level.

To show the activity page screen select “Activity page”



Figure 60: Screen selection; Activity page

On this page, the instructions to TOXcontrol or messages obtained from TOXcontrol or user are displayed, with the date and time when the activity was performed.

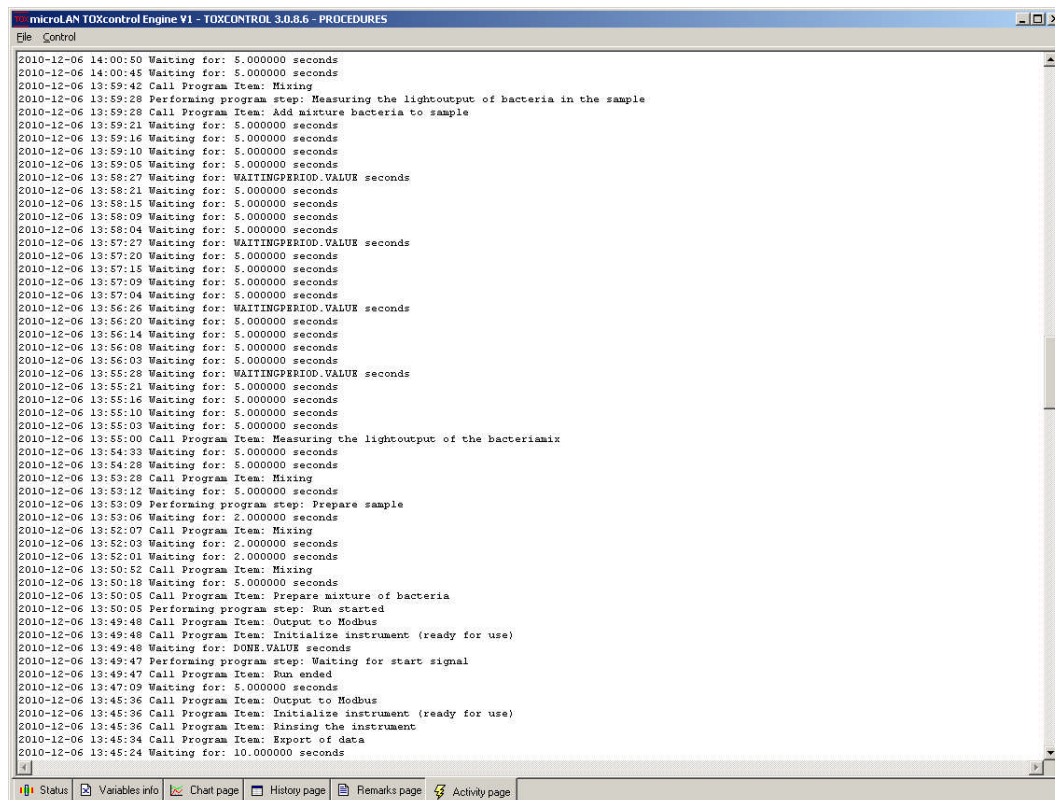


Figure 61: Activity page screen

10. PROCEDURE INFO

For the correct performance of the procedures the variables need to be set correctly.

 See: § 11 Variable info

10.1 RINSING THE INSTRUMENT


With this procedure you can start one cleaning cycle. In this cleaning cycle the left over fluids are taken from the mixing module and brought to the drain. Next step is filling the cups of the mixing module with reference water and after rinsing drained.

This rinsing procedure is also automatically performed after each measurement cycle.

After an “abort” instruction a rinsing procedure is always performed.

Used variables:

 See: § 11.59 Number of rinsing steps

 See: § 11.61 Volume required for rinsing instrument

10.2 START BACTERIA CULTURE (2X 17ML)

Note: This procedure is only for the iTOXcontrol instrument.

Note: This procedure is only necessary when inner cups are use in the cups of the bacteria module.

To use the luminescent bacteria culture they should be cultivated, this cultivation takes place in the bacteria module of the TOXcontrol instrument. During the cultivation the bacteria solution will be heated to 20°C for a time period of 7 hours, after this period the temperature will cool down to 5°C.

After a time period of 149 hours the bacteria solution in cup 2 will start the same cultivation procedure. This is pre-programmed in the software.

This means that after 1 week (after starting this procedure) the instrument will change over to cup 2.

When starting this procedure the following cultivation procedure for 2x 17ml will start.

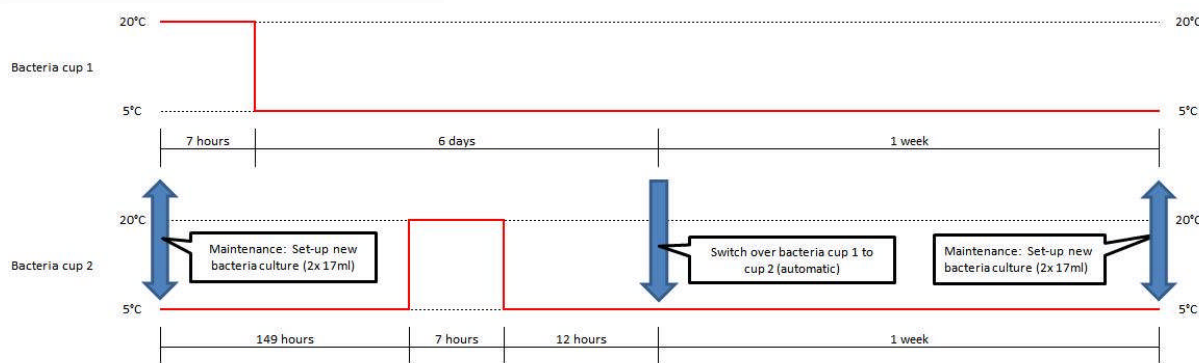


Figure 62: Cultivation procedure 2x 17ml

Follow the following steps:


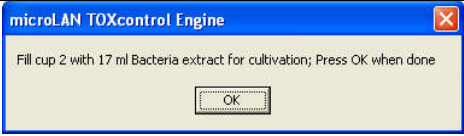
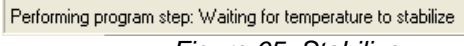
1	Start the procedure and confirm.	See: § 9.4.1 Starting a procedure
2	 <p>Figure 63: Fill cup 1</p>	Fill cup 1 of the bacteria module with 17ml bacteria solution. And press: "OK"
3	 <p>Figure 64: Fill cup 2</p>	Fill cup 2 of the bacteria module with 17ml bacteria solution. And press: "OK"
4	 <p>Figure 65: Stabilize</p>	Wait for the temperature to stabilize before continue.

Table 5: Start bacteria 2x 17ml

When the temperature is stabilized the next screen line will appear:

Bacteria cup 1 in use for measurement	Bacteria cup 2 in use for cultivation	Extra Bacteria activation busy
---------------------------------------	---------------------------------------	--------------------------------

Figure 66: Active procedures

The instrument is now ready to start a measurement procedure.

The cultivation procedure is now running as a back ground procedure, this means that you can start another procedure without ending this one.

Note: The cultivation procedure is only running when the Engine is switched on.

Used variables:

- See: § 11.17 Temperature bacteria cup 1
- See: § 11.18 Temperature bacteria cup 2
- See: § 11.25 Volume bacteria cup 1
- See: § 11.26 Volume bacteria cup 2
- See: § 11.29 Waiting time to start bacteria cultivation cup 2
- See: § 11.30 Temperature bacteria during cultivation cup 2
- See: § 11.31 Waiting time for bacteria cultivation to finish cup 2
- See: § 11.32 Temperature bacteria after cultivation cup 2

- See: § 11.33 Waiting time to use bacteria cup 2
- See: § 11.34 Waiting time to start bacteria cultivation cup 1
- See: § 11.35 Temperature bacteria during cultivation cup 1
- See: § 11.36 Waiting time for bacteria cultivation to finish cup 1
- See: § 11.37 Temperature bacteria after cultivation cup 1

10.3 START BACTERIA CULTURE (2X 25ML)

Note: This procedure is only for the iTOXcontrol instrument.

To use the luminescent bacteria culture they should be cultivated, this cultivation takes place in the bacteria module of the TOXcontrol instrument. During the cultivation the bacteria solution will be heated to 20°C for a time period of 7 hours, after this period the temperature will cool down to 5°C.

After a time period of 149 hours the bacteria solution in cup 2 will start the same cultivation procedure. This is pre-programmed in the software.

This means that after 1 week (after starting this procedure) the instrument will change over to cup 2.

When starting this procedure the following cultivation procedure for 2x 25ml will start.

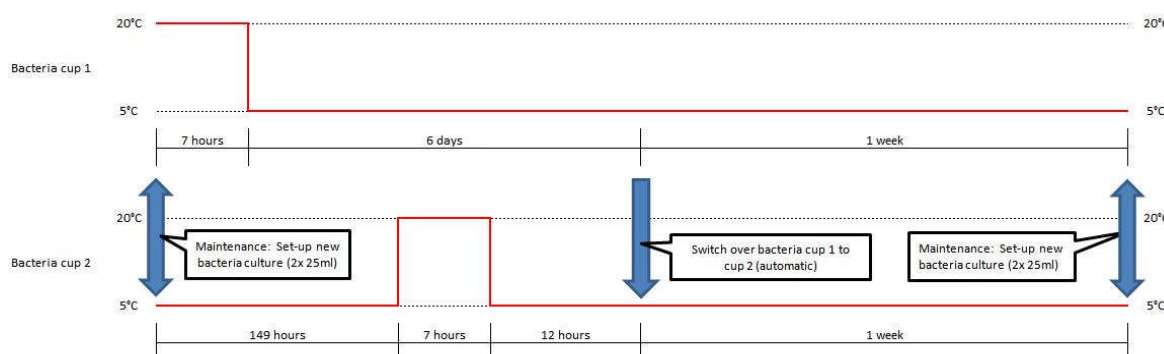


Figure 67: Cultivation procedure 2x 25ml

Follow the following steps:


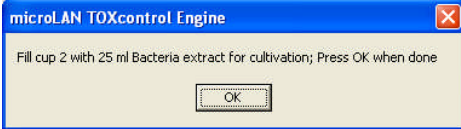
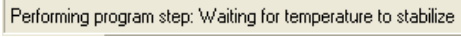
1	Start the procedure and confirm.	See: § 9.4.1 Starting a procedure
2	 <p>Figure 68: Fill cup 1</p>	Fill cup 1 of the bacteria module with 25ml bacteria solution. And press: "OK"
3	 <p>Figure 69: Fill cup 2</p>	Fill cup 2 of the bacteria module with 25ml bacteria solution. And press: "OK"
4	 <p>Figure 70: Stabilize</p>	Wait for the temperature to stabilize before continue.

Table 6: Start bacteria 2x 25ml

When the temperature is stabilized the next screen line will appear:

Bacteria cup 1 in use for measurement	Bacteria cup 2 in use for cultivation	Extra Bacteria activation busy
---------------------------------------	---------------------------------------	--------------------------------

Figure 71: Active procedures

The instrument is now ready to start a measurement procedure.

The cultivation procedure is now running as a back ground procedure, this means that you can start another procedure without ending this one.

Note: The cultivation procedure is only running when the Engine is switched on.

Used variables:

- 📖 See: § 11.17 Temperature bacteria cup 1
- 📖 See: § 11.18 Temperature bacteria cup 2
- 📖 See: § 11.25 Volume bacteria cup 1
- 📖 See: § 11.26 Volume bacteria cup 2
- 📖 See: § 11.29 Waiting time to start bacteria cultivation cup 2
- 📖 See: § 11.30 Temperature bacteria during cultivation cup 2
- 📖 See: § 11.31 Waiting time for bacteria cultivation to finish cup 2
- 📖 See: § 11.32 Temperature bacteria after cultivation cup 2
- 📖 See: § 11.33 Waiting time to use bacteria cup 2
- 📖 See: § 11.34 Waiting time to start bacteria cultivation cup 1
- 📖 See: § 11.35 Temperature bacteria during cultivation cup 1
- 📖 See: § 11.36 Waiting time for bacteria cultivation to finish cup 1
- 📖 See: § 11.37 Temperature bacteria after cultivation cup 1

10.4 START BACTERIA CULTURE (50ML)

Note: This procedure is only for the iTOXcontrol instrument.

To use the luminescent bacteria culture they should be cultivated, this cultivation takes place in the bacteria module of the TOXcontrol instrument. During the cultivation the bacteria solution will be heated to 20°C for a time period of 7 hours, after this period the temperature will cool down to 5°C.

When starting this procedure the following cultivation procedure for 50ml will start.

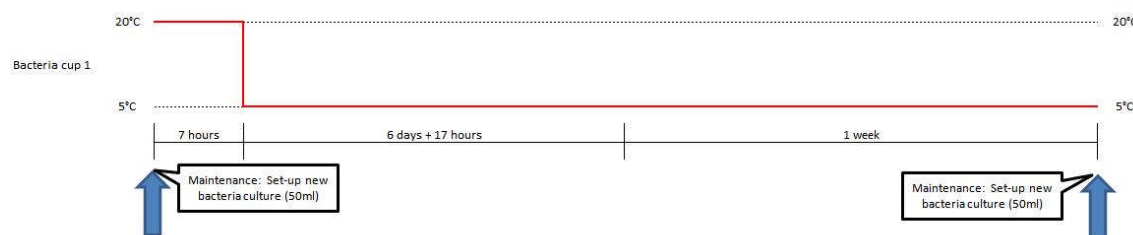


Figure 72: Cultivation procedure 50ml

Follow the following steps:


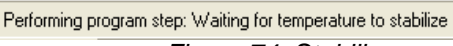
1	Start the procedure and confirm.	See: § 9.4.1 Starting a procedure
2	 <p><i>Figure 73: Fill cup</i></p>	Fill cup of the bacteria module with 50ml bacteria solution. And press: "OK"
4	 <p><i>Figure 74: Stabilize</i></p>	Wait for the temperature to stabilize before continue.

Table 7: Start bacteria 50ml

When the temperature is stabilized the next screen line will appear:

Bacteria cup 1 in use for measurement	Bacteria cup 2 in use for cultivation	Extra Bacteria activation busy
---------------------------------------	---------------------------------------	--------------------------------

Figure 75: Active procedures

The instrument is now ready to start a measurement procedure.

The cultivation procedure is now running as a back ground procedure, this means that you can start another procedure without ending this one.

Note: The cultivation procedure is only running when the Engine is switched on.

Used variables:

- See: § 11.17 Temperature bacteria cup 1
- See: § 11.25 Volume bacteria cup 1
- See: § 11.34 Waiting time to start bacteria cultivation cup 1
- See: § 11.35 Temperature bacteria during cultivation cup 1
- See: § 11.36 Waiting time for bacteria cultivation to finish cup 1
- See: § 11.37 Temperature bacteria after cultivation cup 1

10.5 NORMAL TOXICITY MEASUREMENT

When selecting this procedure the TOXcontrol instrument will start a normal measurement, this means that the instrument will compare the sample with the reference water to calculate the toxicity.

The procedure steps are described in the following chapters:

10.5.1 Initialize

Instrument performs a initialization cycle, all movements will be reset and will return to the zero position.

10.5.2 Syringe cleaning

The syringes will be flushed with reference water, the used water is drained afterwards.


10.5.3 Prepare bacteria solution

Bacteria solution will be prepared.

Bacteria solution: Reference water + NaCl solution + fresh bacteria.

Used variables:

 See: § 11.6 Preparation volume of bacteria (left side)

 See: § 11.20 Volume of bacteria that will be taken from stock


10.5.4 Prepare sample/reference solution

Sample and reference solution is prepared.

Sample solution: Sample water + NaCl solution

Reference solution: Reference water + NaCl solution

Used variables:

 See: § 11.5 Volume of Sample (right side)

10.5.5 Syringe cleaning

The syringes will be flushed with reference water, the used water is drained afterwards.

10.5.6 Measurement bacteria solution (T0)


The bacteria solution in the left cup of the mixing module is taken into the PMT housing by the syringes to perform a luminescence measurement.

This is called the adaption time, the time for the bacteria solution to adapt to 15°C.

This adaption time is default 5 minutes, this means that every minute a luminescence measurement is performed. The last measurement is used for the calculation of the Toxicity and called Luminance T0.


Used variables:

 See: § 11.4 Adaption time for bacteria mix to 15°C

 See: § 11.21 Luminance ref

 See: § 11.24 Required number of readings of the sensor during measurement

 See: § 11.53 Luminance ref T0

 See: § 11.56 Luminance sample T0

10.5.7 Mixing bacteria solution with sample/reference solution

The bacteria solution is mixed with the reference and the sample solution.






10.5.8 Measurement sample/reference solution (T1)

The reference & sample solution in the right cups of the mixing module are taken into the PMT housing by the syringes to perform a luminescence measurement.

This is called the incubation time, the time for the solution to go to get in contact with the bacteria solution.

This incubation time is default 15 minutes, this means that every minute a luminescence measurement is performed. The last measurement is used for the calculation of the Toxicity and called Luminance T1.



Used variables:

-  See: § 11.4 Adaption time for bacteria mix to 15°C
-  See: § 11.22 Luminance sample
-  See: § 11.24 Required number of readings of the sensor during measurement
-  See: § 11.54 Luminance ref T1
-  See: § 11.57 Luminance sample T1

10.5.9 Calculation actual toxicity

The measurements T0 and T1 for reference and sample are used to calculate the correction factor and toxicity.

Used variables:

-  See: § 11.44 Toxicity
-  See: § 11.51 Correction factor



More info about the calculations:

-  See also: (i)TOXcontrol User Manual

10.5.10 Cleaning cycle

After the measurement the samples are drained and the cups of the mixing module are flushed with reference water.

Used variables:

-  See: § 11.59 Number of rinsing steps
-  See: § 11.61 Volume required for rinsing instrument

Go to step: § 10.5.1 Initialize and the procedure will continue automatically.

10.6 SPE SAMPLE TOXICITY MEASUREMENT

Note: This procedure is used in combination with a SPE concentration unit. More info can be found in the  SPE user manual.

10.7 NORMAL TOXICITY AND SPE SAMPLE TOXICITY MEASUREMENT

Note: This procedure is used in combination with a SPE unit. More info can be found in the  SPE user manual.

10.8 POSITIVE CONTROL MEASUREMENT


When selecting this procedure the TOXcontrol instrument will start a positive control measurement, this means that the instrument will compare a polluted sample with the reference water to calculate the toxicity.


This procedure is used to check the response of the bacteria culture.

The positive control measurement is also automatically performed during the normal measurement.

The frequency of the positive control measurement can be set in the variables.

Used variables:

 See: § 11.9 Frequency for positive control measurement

 See: § 11.10 Counter for positive control measurement

The procedure steps are almost the same as a normal toxicity measurement accept the following steps:

10.8.1 Prepare sample/reference solution


Sample and reference solution is prepared.

Sample solution: Reference water + NaCl solution + zinc solution

Reference solution: Reference water + NaCl solution

Used variables:

 See: § 11.27 Volume of control solution

 See: § 11.5 Volume of Sample (right side)


10.8.2 Cleaning cycle


After the measurement the samples are drained into the positive control drain and the and the cups of the mixing module are flushed with reference water.

Because we add zinc solution to the sample the instrument is performing extra rinsing steps.

Used variables:

 See: § 11.59 Number of rinsing steps

 See: § 11.60 Number of extra rinsing steps

 See: § 11.61 Volume required for rinsing instrument

10.9 NEGATIVE CONTROL MEASUREMENT


When selecting this procedure the TOXcontrol instrument will start a negative control measurement, this means that the instrument will compare a reference sample with the reference water to calculate the toxicity.


This procedure is used to check the working principle of the instrument.

The negative control measurement is also automatically performed during the normal measurement.

The frequency of the positive control measurement can be set in the variables.

Used variables:

 See: § 11.11 Frequency for negative control measurement

 See: § 11.12 Counter for negative control measurement

The procedure steps are almost the same as a normal toxicity measurement accept the following steps:


10.9.1 Prepare sample/reference solution

Sample and reference solution is prepared.

Sample solution: Reference water + NaCl solution

Reference solution: Reference water + NaCl solution

Used variables:

 See: § 11.5 Volume of Sample (right side)

10.10 BLANK SOLUTION MEASUREMENT

When selecting this procedure the TOXcontrol instrument will start a blank solution measurement. During a blank solution measurement the instrument will use blank solution instead of reference and sample water.

Blank solution contains water and NaCl solution. The amount of NaCl in the solution is 2%.

This procedure can be used to check the instrument without sample and reference water.

The rinsing steps in this procedure is performed with reference water.

The procedure steps are almost the same as a normal toxicity measurement accept the following steps:


10.10.1 Prepare bacteria solution

Bacteria solution will be prepared.

Bacteria solution: Blank solution + fresh bacteria.

Used variables:

 See: § 11.6 Preparation volume of bacteria (left side)

 See: § 11.20 Volume of bacteria that will be taken from stock


10.10.2 Prepare sample/reference solution

Sample and reference solution is prepared.

Sample solution: Blank solution

Reference solution: Blank solution

Used variables:

 See: § 11.5 Volume of Sample (right side)

10.11 BLANK SOLUTION POSITIVE CONTROL MEASUREMENT

When selecting this procedure the TOXcontrol instrument will start a blank solution measurement with a positive control. During a blank solution measurement the instrument will use blank solution instead of reference and sample water. Blank solution contains water and NaCl solution. The amount of NaCl in the solution is 2%.

This procedure can be used to check the instrument without sample and reference water.

The rinsing steps in this procedure is performed with reference water.


The procedure steps are almost the same as a normal toxicity measurement accept the following steps:

10.11.1 Prepare bacteria solution

Bacteria solution will be prepared.

Bacteria solution: Blank solution + fresh bacteria.

Used variables:

 See: § 11.6 Preparation volume of bacteria (left side)

 See: § 11.20 Volume of bacteria that will be taken from stock

10.11.2 Prepare sample/reference solution


Sample and reference solution is prepared.

Sample solution: Blank solution + zinc solution

Reference solution: Blank solution

Used variables:

 See: § 11.27 Volume of control solution

 See: § 11.5 Volume of Sample (right side)

10.11.3 Cleaning cycle


After the measurement the samples are drained into the positive control drain and the and the cups of the mixing module are flushed with reference water.


The rinsing steps in this procedure is performed with reference water.

Because we add zinc solution to the sample the instrument is performing extra rinsing steps.

Used variables:

 See: § 11.59 Number of rinsing steps

 See: § 11.60 Number of extra rinsing steps

 See: § 11.61 Volume required for rinsing instrument

10.12 MAINTENANCE: REPLACING SYRINGES

When selecting this procedure the TOXcontrol instrument will start the procedure to change the syringes.

Select the procedure: “Maintenance: Replace syringes”
The following pop-up screens will appear:

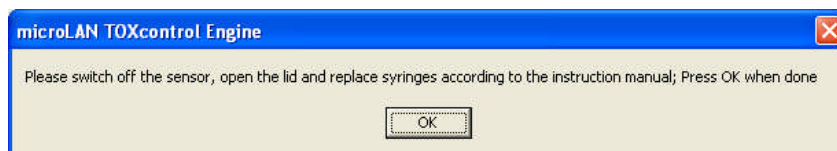


Figure 76: Replace syringes 1

Follow the instruction in the window and press “OK”.

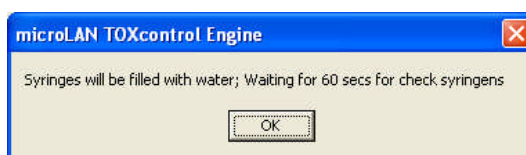


Figure 77: Replace syringes 2

Press “OK” and the test procedure will be started.

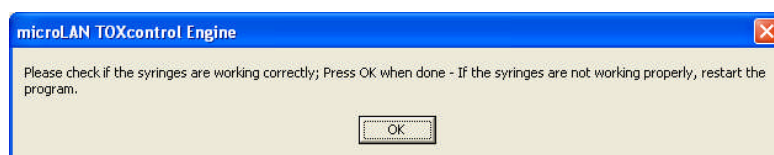



Figure 78: Replace syringes 3

Follow the instruction in the window and press “OK”.



Figure 79: Replace syringes 4

Press “OK” and give a remark.

 See: § 9.4.3 Add a remark

 See also: TOXcontrol User Manual: § Exchange of the syringes

10.13 MAINTENANCE: ADJUST TIP HEIGHT

When selecting this procedure the TOXcontrol instrument will start the procedure to adjust the tip height.

Select the procedure: “Maintenance: Adjust tip height”

The tip arm is moving to the mix module position and will go down.

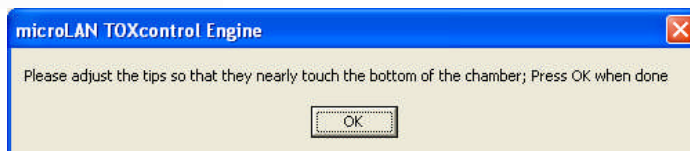


Figure 80: Adjust tip height

Follow the instruction in the window and press “OK”.

 See also: TOXcontrol User Manual: § Change the tips

10.14 MAINTENANCE: ADJUST STEP POSITIONS TIPS

When selecting this procedure the TOXcontrol instrument will start the procedure to adjust the tip positions.

Select the procedure: “Maintenance: Adjust step positions tips”

The following pop-up screens will appear:

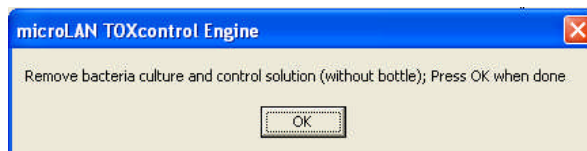













Figure 81: Adjust step positions tips

Follow the instruction in the window and press “OK”.

The arm will go to each position and will go down, check if the positions are correct. If not the positions can be changed in the variables. This can be done during the procedure.

Used variables:

-  See: § 11.62 Position salt solution
-  See: § 11.63 Position rinse solution
-  See: § 11.64 Position drain normal
-  See: § 11.65 Position sample
-  See: § 11.66 Position SPE sample
-  See: § 11.67 Position drain control
-  See: § 11.68 Position control solution
-  See: § 11.69 Position mix sample
-  See: § 11.70 Position mix bacteria
-  See: § 11.71 Position bacteria cup 2
-  See: § 11.72 Position bacteria cup 1

10.15 DILUTION SERIES MEASUREMENT

When selecting this procedure the TOXcontrol instrument will start the procedure for the dilution measurement.

Carry out the following procedure steps to set-up a dilution measurement:

1. Fill a bottle with Blank Solution and place it in the position of the NaCl Bottle.
2. Place the sample (toxic solution) in the position of the Positive Control Solution.
3. Desired volume for the test can be filled in the following variable:
Required volume depends on toxicity of the sample.

 See: § 11.16 Volume control solution in test

Note:

Make sure that the first dilution results in the range of 10-20% toxicity, to prevent too much carry-over effect.

4. In this procedure the measurements are done in a certain steps.
The performed steps in one cycle can be set in the following variable.
For example: 0 – 40 – 80 – 160 – 320 µl sample solution.

 See: § 11.38 Dilution Series steps

The total amount of cycles can be set in the variable
Dilution series cycles

 See: § 11.39 Dilution Series Cycles

5. Select the procedure: “Dilution Series Measurement” and press “start”.
6. After 5 series of measurements another cycle is started until all 3 cycles are ready.
(Default settings)

Note:

Pay attention to the fact, that the first measurement without a toxic solution is counted as measurement nr. 1

7. The toxicity results are stored in the software as positive control results.

Note:

The total volume will always be 10 ml. For example: in the course of preparing the last dilution, the TOXcontrol is taking a total volume of 9,68 ml Blank Solution and thereafter the TOXcontrol will take a sample-volume of 320 µL.

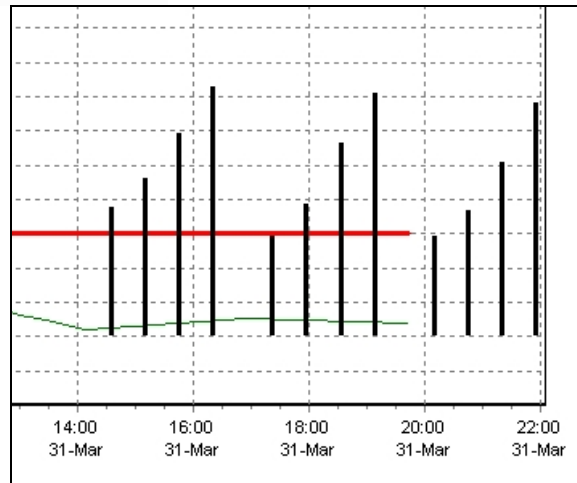



Figure 82: Dilution measurements results


10.16 PMT TEST (SERVICE MANAGER ONLY)

 See: TOXcontrol Advanced Manual

10.17 SEND SMS (SERVICE MANAGER ONLY)

 See: TOXcontrol Advanced Manual

10.18 OUTPUT TO MODBUS (SERVICE MANAGER ONLY)

 See: TOXcontrol Advanced Manual

11. VARIABLE INFO

11.1 FACTOR VOLUME SYRINGE

The steps that the syringe motor must turn to replace 1000 µl.

Note: This variable is only editable when logged in as Service Manager.

Default value:	TOXcontrol old spindle type:	205
	TOXcontrol new spindle type:	1065
	iTOX spindle:	540
Units:	Steps per 1000 µl	

11.2 WAITING PERIOD UNTIL END OF RUN

The time left in minutes before the run has ended or the next measurement will start. This time is calculated from the previous measurement so when the previous measurement is not the same as the next one this time can be inaccurate.

Default value:	N.A.
Units:	Minutes

11.3 INCUBATION TIME

The time in minutes for incubation of the bacteria with the sample. In this incubation time the luminescence bacteria can react with the sample. The longer the time period the longer the bacteria can react on the sample. At the end of this period the T1 value is measured.

Default value:	15
Units:	Minutes

11.4 ADAPTION TIME FOR BACTERIA MIX TO 15°C

The time required for the bacteria solution to adapt to 15 °C , (Temperature mixing module). At the end of this period the T0 value is measured.

Default value:	5
Units:	Minutes

11.5 VOLUME OF SAMPLE (RIGHT SIDE)

The volume of sample that has to be prepared. If the user wants a dilution of 2, the value of this volume must be set to 5 ml.

The amount of NaCl solution (20%) is always 10% of the total volume. This means that with the default setting 2x 4,5 ml sample / reference water + 2x 0,5 ml NaCl solution (20%) is used. The total volume in each right cup of the mixing module is 5 ml.

If one want to increase the sensitivity by decreasing the dilution rate of the sample, it is possible to increase the volume of sample preparation. For instance given the value 9 ml in the Volume of Sample (right side), the TOXcontrol will add 1 ml of bacteria mix to this sample. Beware that the light output must be sufficient enough to obtain correct toxicity measurements.

Default value: 5
Units: ml

11.6 PREPARATION VOLUME OF BACTERIA (LEFT SIDE)

The required volume to make a bacteria solution from the bacteria stock by adding salt solution and reference water. The amount of NaCl solution (20%) is always 10% of the total volume. This means that with the default setting 2x 4,5 ml reference water + 2x 0,5 ml NaCl solution (20%) is used. The total volume in the left cup of the mixing module is 10 ml.

Default value: 5
Units: ml

11.7 CYCLE TIME FOR NORMAL TOXICITY MEASUREMENTS

The cycle time for each measurement.

For example set this variable on 60 minutes and every 60 minutes a measurement will be started.

Note: Before the measurement will start the instrument will perform a cleaning cycle.

Set the variable on 0 minutes and the measurements starts without any delay.

Default value: 0
Units: Minutes

11.8 WAITING TIME TO START NORMAL TOXICITY MEASUREMENT

The time before the first measurement starts.

For example set this value on 45 minutes and after 45 minutes the first measurement will start, after this measurement the next measurement will start after the value: "Cycle time for normal toxicity measurement"

 See: § 11.7 Cycle time for normal toxicity measurements

Default value: 0
Units: Minutes

11.9 FREQUENCY FOR POSITIVE CONTROL MEASUREMENT

The given value will be the x^{th} measurement that will be a positive control measurement and not a normal toxicity measurement.

When given 0, no control measurement will be carried out.

Default value: 25 (0 = Switched off)
Units: Measurement cycles

11.10 COUNTER FOR POSITIVE CONTROL MEASUREMENT

Note: This variable is only editable when logged in as Service Manager.

The number of measurements performed, so you know when a positive control measurement is performed.

Default value: N.A.
Units: Measurement cycles

11.11 FREQUENCY FOR NEGATIVE CONTROL MEASUREMENT

The given value will be the x^{th} measurement that will be a negative control measurement and not a normal toxicity measurement.

When given 0, no control measurement will be carried out.

Default value: 25 (0 = Switched off)
Units: Measurement cycles

11.12 COUNTER FOR NEGATIVE CONTROL MEASUREMENT

Note: This variable is only editable when logged in as Service Manager.

The number of measurements performed, so you know when a negative control measurement is performed.

Default value: N.A.
Units: Measurement cycles

11.13 FREQUENCY FOR PURGING

After the set point is reached the instrument will blow air into the bacteria culture before the preparation of the bacteria solution.

When given 0, no purging is performed.

Note: This variable is only editable when logged in as Service Manager.

Default value: 0
Units: Measurement cycles

11.14 FREQUENCY FOR SMS

Note: Only available with additional hard- & software.

Frequency set point for Short Message Service.

When given 0, no message is send.

Note: This variable is only editable when logged in as Service Manager.

Default value: 0
Units: Measurement cycles

11.15 SAVE INTERMEDIATE LUMINESCENCE READINGS

Default only the luminescence readings on T0 and T1 are stored in the database, when set point is "1" all luminescence readings are saved in the database.

Default value: 0
Units: On / off

11.16 VOLUME CONTROL SOLUTION IN TEST

The amount of control solution used in the sample solution during a positive control measurement.

Default value: 40
Units: µl

11.17 TEMPERATURE BACTERIA CUP 1

The required temperature of cup 1 of the bacteria module.

Default value: 5
Units: °C

11.18 TEMPERATURE BACTERIA CUP 2

The required temperature of cup 2 of the bacteria module.

Default value: 5
Units: °C

11.19 TEMPERATURE INCUBATION UNIT

The required temperature in which the bacteria during the preparation of bacteria mix with the incubation and the sample must be kept.

Default value: 15
Units: °C

11.20 VOLUME OF BACTERIA THAT WILL BE TAKEN FROM STOCK

The amount of bacteria culture used in the bacteria solution.

Default value: 50 (40 when inner cup is used)
Units: µl

11.21 LUMINANCE REF

The direct light output of the reference solution during a measurement. The value changes every time a measurement is requested by the engine. The user can check if a value is obtained.

Default value: N.A.
Units: RLU (Relative Light Units)

11.22 LUMINANCE SAMPLE

The direct light output of the sample during a measurement. The value changes every time a measurement is requested by the engine. The user can check if a value is obtained.

Default value: N.A.
Units: RLU (Relative Light Units)

11.23 LOW LUMINANCE CHECK

When switched on (default) the instrument will abort the actual measurement when the light output is 10% below the light output of the previous measurement. After aborting the measurement the instrument will retry 3 times before stopping the instrument.

The measurement will also be aborted when: $CF < 0,4$ & $CF > 2,0$
See remark screen below.

Timestamp	Subject	Remark	Comment
2009/05/12 15:20:31	Message from program	Application remark	Measurement aborted: Low Correction Factor (< 0.4)
2009/05/12 15:29:14	Message from program	Application remark	Measurement aborted: Low Correction Factor (< 0.4)
2009/05/12 15:37:56	Message from program	Application alarm	Low Correction Factor, please check your bacteria and add a fresh culture
2009/05/12 15:40:13	Message from program	Procedure engine stopped	

Figure 83: Low CF remark

When low luminance check is switched off the instrument will always continue the measurement even if there is absolutely no light output or when the PMT is switched off.

Default value: 1
Units: On / off

11.24 REQUIRED NUMBER OF READINGS OF THE SENSOR DURING MEASUREMENT

The amount of readings of the PMT sensor for each luminescence measurement. This is default set on 3 so this means that the software will calculate an average value from the 3 readings.

Note: This variable is only editable when logged in as Service Manager.

Default value: 3
Units: Readings

11.25 VOLUME BACTERIA CUP 1

The actual volume of stock solution of bacteria culture present in bacteria cup 1.

Default value: 25 (17 when inner cup is used)
Units: ml

11.26 VOLUME BACTERIA CUP 2

The actual volume of stock solution of bacteria culture present in bacteria cup 2.

Default value: 25 (17 when inner cup is used)
Units: ml

11.27 VOLUME OF CONTROL SOLUTION

The actual volume of control solution present in the bottle in the control module. This solution is used for the positive control measurement.

Default value: 6,5
Units: ml

11.28 VOLUME OF SALT SOLUTION

The actual volume of salt solution present in the bottle in the NaCl module.

Default value: 1000
Units: ml

11.29 WAITING TIME TO START BACTERIA CULTIVATION CUP 2

The waiting time before the bacteria cultivation starts in bacteria cup 2.

Note: This variable is only editable when logged in as Service Manager.

Default value: 149
Units: Hours

11.30 TEMPERATURE BACTERIA DURING CULTIVATION CUP 2


The temperature in bacteria cup 2 during cultivation.

Note: This variable is only editable when logged in as Service Manager.


Default value: 20
Units: °C

11.31 WAITING TIME FOR BACTERIA CULTIVATION TO FINISH CUP 2

The total cultivation period in bacteria cup 2. During the cultivation the temperature will rise to the cultivation temperature.

 See: § 11.30 Temperature bacteria during cultivation cup 2

After this period the temperature will cool down to the temperature after cultivation.

 See: § 11.32 Temperature bacteria after cultivation cup 2

Note: This variable is only editable when logged in as Service Manager.

Default value: 7
Units: Hours

11.32 TEMPERATURE BACTERIA AFTER CULTIVATION CUP 2

The temperature in bacteria cup 2 after cultivation.

Note: This variable is only editable when logged in as Service Manager.

Default value: 5
Units: °C

11.33 WAITING TIME TO USE BACTERIA CUP 2

The time before the instrument switches over from bacteria cup 1 to bacteria cup 2.

Note: This variable is only editable when logged in as Service Manager.

Default value: 12
Units: Hours

11.34 WAITING TIME TO START BACTERIA CULTIVATION CUP 1

The waiting time before the bacteria cultivation starts in bacteria cup 1.

Note: This variable is only editable when logged in as Service Manager.

Default value: 0
Units: Hours

11.35 TEMPERATURE BACTERIA DURING CULTIVATION CUP 1

The temperature in bacteria cup 2 during cultivation.

Note: This variable is only editable when logged in as Service Manager.

Default value: 20
Units: °C

11.36 WAITING TIME FOR BACTERIA CULTIVATION TO FINISH CUP 1

The total cultivation period in bacteria cup 1. During the cultivation the temperature will rise to the cultivation temperature.

📖 See: § 11.35 Temperature bacteria during cultivation cup 1

After this period the temperature will cool down to the temperature after cultivation.

📖 See: § 11.37 Temperature bacteria after cultivation cup 1

Note: This variable is only editable when logged in as Service Manager.

Default value: 7
Units: Hours

11.37 TEMPERATURE BACTERIA AFTER CULTIVATION CUP 1

The temperature in bacteria cup 1 after cultivation.

Note: This variable is only editable when logged in as Service Manager.

Default value: 5
Units: °C

11.38 DILUTION SERIES STEPS

The number of dilution steps in one cycle.

Note: This variable is only editable when logged in as Service Manager.

Default value: 5
Units: steps

11.39 DILUTION SERIES CYCLES

The number of dilution cycles. After finishing all measurement cycles the instrument will stop automatically.

Note: This variable is only editable when logged in as Service Manager.

Default value: 3
Units: cycles


11.40 WASTE WATER APPLICATION


Note: This variable is used only when your TOXcontrol will used in a waste water application.

The measurement is the same as the normal toxicity measurement but will be aborted when the intermediate toxicity is not between the actual set points.

When the intermediate toxicity is above the upper limit the sample water is diluted with reference water. The dilution factor is visible as D-factor.

 See: § 11.41 Waste water dilution set point above

 See: § 11.42 Waste water dilution set point below

 See: § 11.43 D-factor

Waste water application: 0 = switched off, 1= switched on

Note: This variable is only editable when logged in as Service Manager.

Default value: 0
Units: On / off

11.41 WASTE WATER DILUTION SET POINT ABOVE

Note: This variable is used only when your TOXcontrol will used in a waste water application.


Upper level toxicity

Toxicity above set-point "above" (between:20 - 40%)

Toxicity above set-point "above" x2 (40%)

> D-factor 1 step up

> D-factor 2 steps up

 See: § 11.43 D-factor


Note: This variable is only editable when logged in as Service Manager.

Default value: 20
Units: %

11.42 WASTE WATER DILUTION SET POINT BELOW

Note: This variable is used only when your TOXcontrol will be used in a waste water application.

Lower level toxicity
Toxicity below set-point "below" (10%) > D-factor 1 step down

 See: § 11.43 D-factor

Note: This variable is only editable when logged in as Service Manager.

Default value: 10
Units: %

11.43 D-FACTOR

Note: This variable is used only when your TOXcontrol will be used in a waste water application.

Dilution factor, number of dilution steps
After restarting the procedure the measurement will start with the D-factor of the last measurement (no reset D-factor).

Note: This variable is only editable when logged in as Service Manager.

Default value: N.A.
Units: Steps

11.44 TOXICITY

The toxicity measured by the instrument during the latest normal measurement.

Default value: N.A.
Units: %

11.45 DYNAMIC THRESHOLD TOXICITY

The latest calculated dynamic threshold level depending of the history of data already obtained.

Default value: N.A.
Units: %

11.46 STATIC THRESHOLD TOXICITY

The static threshold for the toxicity is in accordance with the standard 20%. Values below this cannot be rated necessarily as toxicity. Because in the water monitoring through influences from waters a constant swing of the base line of the inhibition arises, one can only lower the alarm threshold, by using a dynamic value limit.

 See: § 11.45 Dynamic Threshold Toxicity

Default value: 20
Units: %

11.47 TOXICITY ALARM COUNTS

The alarm counter for toxicity alarms, when the set point is reached the instrument will give a toxicity alarm.

For example: Set point = 2, the alarm will be generated after two toxicity in a row.

Default value: 0
Units: Counts

11.48 TOX POS. CTRL

The toxicity measured by the instrument during the latest positive control measurement.

Default value: N.A.
Units: %

11.49 TOX NEG. CTRL

The toxicity measured by the instrument during the latest negative control measurement.

Default value: N.A.
Units: %

11.50 TOX SPE SAMPLE

Note: This variable is used only when your TOXcontrol will used in combination with a SPE unit. More info can be found in the  SPE user manual.

The toxicity measured by the instrument during the latest SPE sample toxicity measurement.

Note: This variable is only editable when logged in as Service Manager.

Default value: N.A.

Units: %

11.51 CORRECTION FACTOR

This factor is the light output of the reference at the end of the incubation period divided by the light output of the reference at the beginning of the incubation period. According to ISO 11348 this should be between 0.6 and 1.3 and is an indicator for the stability of the bacteria culture.

Default value: N.A.

Units: Factor

11.52 INTERMEDIATE TOXICITY

The actual measured toxicity during the measurements.

Default value: N.A.

Units: %

11.53 LUMINANCE REF T0

The light output of the reference channel at T0.

Default value: N.A.

Units: RLU (Relative Light Units)

11.54 LUMINANCE REF T1

The light output of the reference channel at T1.

Default value: N.A.

Units: RLU (Relative Light Units)

11.55 LUMINANCE REF T1 (CTRL)

The light output of the reference channel at T1 during a positive control measurement.

Default value: N.A.

Units: RLU (Relative Light Units)

11.56 LUMINANCE SAMPLE T0

The light output of the sample channel at T0.

Default value: N.A.
Units: RLU (Relative Light Units)

11.57 LUMINANCE SAMPLE T1

The light output of the sample channel at T1 during a normal measurement.

Default value: N.A.
Units: RLU (Relative Light Units)

11.58 LUMINANCE SAMPLE T1 (CTRL)

The light output of the sample channel at T1 during a positive control measurement.

Default value: N.A.
Units: RLU (Relative Light Units)

11.59 NUMBER OF RINSING STEPS

In order to prevent the sediment of contamination in the equipment, the sample chambers and measuring chambers are rinsed after each measurement with reference water. Rinsing cycles cost however time and increase the wear out of the syringes. When in normal measurements of water samples no toxicity is expected, it is sufficient to set one rinsing cycle. When samples with additive of chemicals or concentrated samples are measured, 3 rinsing cycles are recommended.

Note: A higher number of rinsing cycles increases the measuring interval.

Default value: 1
Units: Steps

11.60 NUMBER OF EXTRA RINSING STEPS

Rinsing is particularly important after measurements with the positive control measurement pollutants (sensitivity examination with calibration solution).

Number of extra rinsing steps performed after a positive control measurement. These extra rinsing steps are also used during a dilution measurement.

Default value: 3
Units: Steps

11.61 VOLUME REQUIRED FOR RINSING INSTRUMENT

The volume of reference water used during a rinsing cycle. During a measurement 10ml of water is used. For cleaning we advise to use 10,5ml for optimal cleaning of the mixing module.

Default value: 10,5
Units: ml

11.62 POSITION SALT SOLUTION

Actual position for the tip arm on the NaCl position.

Note: This variable is only editable when logged in as Service Manager.

Default value: 30
Units: Steps

11.63 POSITION RINSE SOLUTION

Actual position for the tip arm on the rinsing/reference position.

Note: This variable is only editable when logged in as Service Manager.

Default value: 285
Units: Steps

11.64 POSITION DRAIN NORMAL

Actual position for the tip arm on the drain position.

Note: This variable is only editable when logged in as Service Manager.

Default value: 520
Units: Steps

11.65 POSITION SAMPLE

Actual position for the tip arm on the sample position.

Note: This variable is only editable when logged in as Service Manager.

Default value: 760
Units: Steps

11.66 POSITION SPE SAMPLE

Note: This variable is used only when your TOXcontrol will be used in combination with a SPE unit. More info can be found in the  SPE user manual.

Actual position for the tip arm on the SPE sample position.

Note: This variable is only editable when logged in as Service Manager.

Default value: 760
Units: Steps

11.67 POSITION DRAIN CONTROL

Actual position for the tip arm on the control drain position.

Note: This variable is only editable when logged in as Service Manager.

Default value: 1000
Units: Steps

11.68 POSITION CONTROL SOLUTION

Actual position for the tip arm on the positive control solution position.

Note: This variable is only editable when logged in as Service Manager.

Default value: 1180
Units: Steps

11.69 POSITION MIX SAMPLE

Actual position for the tip arm on the reference/sample position in the mixing module.

Note: This variable is only editable when logged in as Service Manager.

Default value: 1475
Units: Steps

11.70 POSITION MIX BACTERIA

Actual position for the tip arm on the bacteria solution position in the mixing module.

Note: This variable is only editable when logged in as Service Manager.

Default value: 1700
Units: Steps

11.71 POSITION BACTERIA CUP 2

Actual position for the tip arm on the bacteria culture cup 2 position in the bacteria module.

Note: This variable is only editable when logged in as Service Manager.

Default value: 2095
Units: Steps

11.72 POSITION BACTERIA CUP 1

Actual position for the tip arm on the bacteria culture cup 1 position in the bacteria module.

Note: This variable is only editable when logged in as Service Manager.

Default value: 2280
Units: Steps

11.73 0 OR 4 MA 0-SETTING?

Range setting for analog output module.
Using default value 4 = range 4 – 20 mA output signal related to the measured toxicity.

Default value: 4
Units: mA

11.74 MAX VALUE MA OUTPUT

Maximum output value: 100% Toxicity = 20 mA

Default value: 100
Units: mA

11.75 MIN VALUE MA OUTPUT

Minimum output value: -10% Toxicity = 4 mA

Default value: -10
Units: mA

11.76 OUTPUT MA SIGNAL

Actual mA output signal related to the measured toxicity.

Default value: N.A.
Units: mA

11.77 DELAY NUMBER OF MEASUREMENTS FOR DYNAMIC CALCULATIONS

A delay period for history data which is required for the calculation of the dynamic threshold. Possible night/day patterns or location depending wave patterns which contribute to false positive alarms can be prevented when introducing a delay period.

Note: This variable is only editable when logged in as Service Manager.

Default value: 0
Units: Measurements

11.78 BASELINE TOXICITY VALUES

A baseline additional to the mean values obtained from the history data.

Note: This variable is only editable when logged in as Service Manager.

Default value: 0
Units: Measurements

11.79 NUMBER OF DATA FOR DYNAMIC CALCULATIONS

For the calculation of dynamic alarm thresholds, a number of history data is required. Using this data the standard deviation and the mean values are calculated, and a dynamic threshold is calculated:

dynamic threshold = baseline toxicity + mean value + factor x a standard deviation.

When the number is below 2, the calculation for a dynamic threshold will not be performed.

Note: This variable is only editable when logged in as Service Manager.

Default value: 0
Units: Measurements

11.80 STANDARD DEVIATION FACTOR FOR TOXICITY

The range for the dynamic threshold by increasing or decreasing the factor.

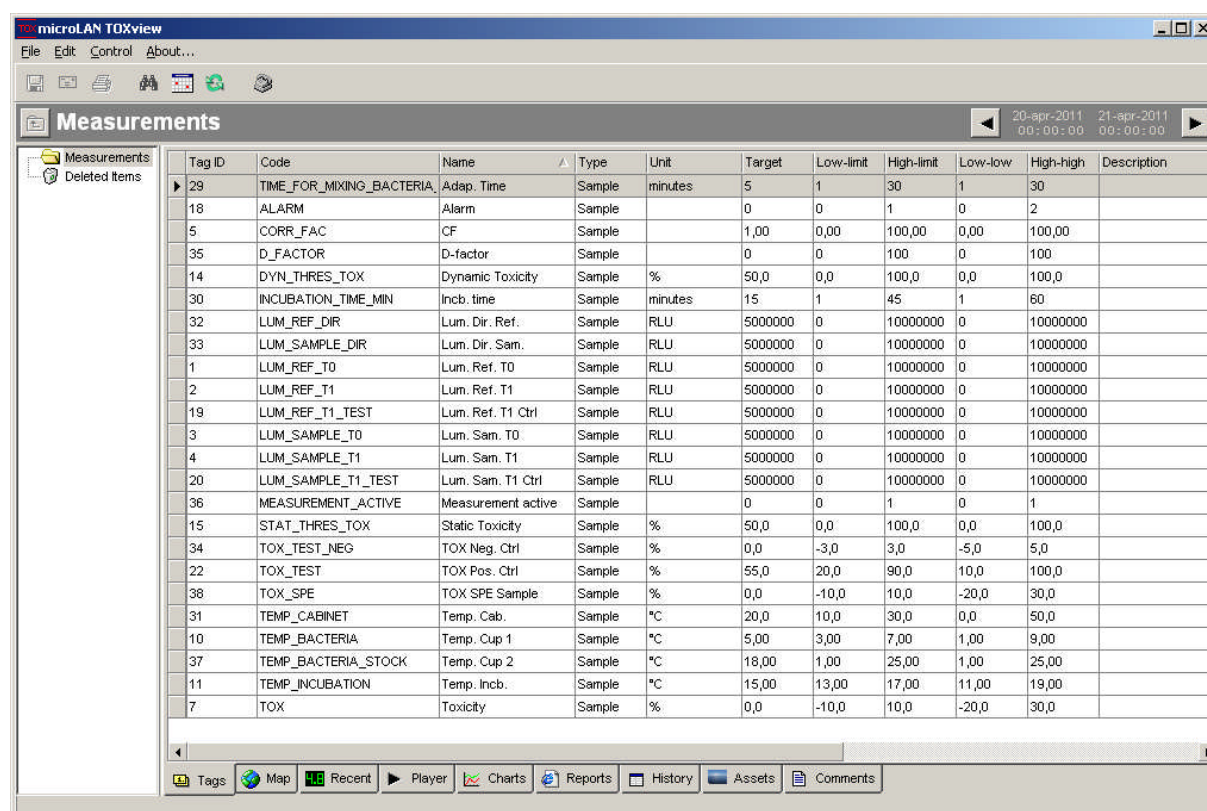
Note: This variable is only editable when logged in as Service Manager.

Default value: 0
Units: Factor

12. TOXVIEW SOFTWARE

12.1 INTRODUCTION

TOXview is an application to organize, view and visualize measurement data. Data can be printed saved and emailed in graphical (*.jpg) , tabular (*.xls) and report (*.html) form. TOXview comes with an integrated 'Data Collector Manager' to input measurements from data acquisition sources, but because TOXview uses an open database, measurements can be inputted with external data collectors as well.



Tag ID	Code	Name	Type	Unit	Target	Low-limit	High-limit	Low-low	High-high	Description
29	TIME_FOR_MIXING_BACTERIA	Adap. Time	Sample	minutes	5	1	30	1	30	
18	ALARM	Alarm	Sample		0	0	1	0	2	
5	CORR_FAC	CF	Sample		1,00	0,00	100,00	0,00	100,00	
35	D_FACTOR	D-factor	Sample		0	0	100	0	100	
14	DYN_THRES_TOX	Dynamic Toxicity	Sample	%	50,0	0,0	100,0	0,0	100,0	
30	INCUBATION_TIME_MIN	Incub. time	Sample	minutes	15	1	45	1	60	
32	LUM_REF_DIR	Lum. Dir. Ref.	Sample	RLU	5000000	0	10000000	0	10000000	
33	LUM_SAMPLE_DIR	Lum. Dir. Sam.	Sample	RLU	5000000	0	10000000	0	10000000	
1	LUM_REF_T0	Lum. Ref. T0	Sample	RLU	5000000	0	10000000	0	10000000	
2	LUM_REF_T1	Lum. Ref. T1	Sample	RLU	5000000	0	10000000	0	10000000	
19	LUM_REF_T1_TEST	Lum. Ref. T1 Ctrl	Sample	RLU	5000000	0	10000000	0	10000000	
3	LUM_SAMPLE_T0	Lum. Sam. T0	Sample	RLU	5000000	0	10000000	0	10000000	
4	LUM_SAMPLE_T1	Lum. Sam. T1	Sample	RLU	5000000	0	10000000	0	10000000	
20	LUM_SAMPLE_T1_TEST	Lum. Sam. T1 Ctrl	Sample	RLU	5000000	0	10000000	0	10000000	
36	MEASUREMENT_ACTIVE	Measurement active	Sample		0	0	1	0	1	
15	STAT_THRES_TOX	Static Toxicity	Sample	%	50,0	0,0	100,0	0,0	100,0	
34	TOX_TEST_NEG	TOX Neg. Ctrl	Sample	%	0,0	-3,0	3,0	-5,0	5,0	
22	TOX_TEST	TOX Pos. Ctrl	Sample	%	55,0	20,0	90,0	10,0	100,0	
38	TOX_SPE	TOX SPE Sample	Sample	%	0,0	-10,0	10,0	-20,0	30,0	
31	TEMP_CABINET	Temp. Cab.	Sample	*C	20,0	10,0	30,0	0,0	50,0	
10	TEMP_BACTERIA	Temp. Cup 1	Sample	*C	5,00	3,00	7,00	1,00	9,00	
37	TEMP_BACTERIA_STOCK	Temp. Cup 2	Sample	*C	18,00	1,00	25,00	1,00	25,00	
11	TEMP_INCUBATION	Temp. Incub.	Sample	*C	15,00	13,00	17,00	11,00	19,00	
7	TOX	Toxicity	Sample	%	0,0	-10,0	10,0	-20,0	30,0	

Figure 84: TOXview main screen

The left window shows the hierarchical location structure, while the right window shows information associated to the selected location. The displayed information at the right depends on the selected page at the bottom of the Window.

12.2 MAIN MENU STRUCTURE

In the upper right corner of the main screen you will find the main menu structure.

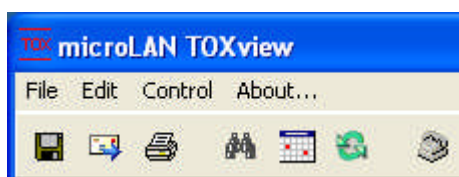


Figure 85: Menu structure

12.2.1 File menu

From the 'File'-menu the contents of the right window can be printed, saved to file or send by e-mail.

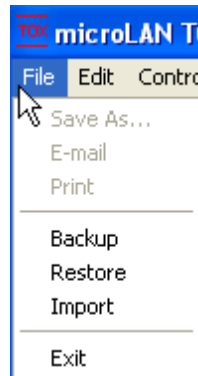


Figure 86: File menu

Save as:	Data can be saved in graphical (*.jpg) , tabular (*.xls) and report (*.html) form.
E-mail:	Data can be emailed in graphical (*.jpg) , tabular (*.xls) and report (*.html) form.
Print:	Data can be printed in graphical (*.jpg) , tabular (*.xls) and report (*.html) form.
Backup:	Backup function for Database
Restore:	Restore function for Database
Import:	Import function for database; data can be add to the current datadase.
Exit:	Exit TOXview software

12.2.2 Edit menu

From the 'Edit'-menu parameters, users, locations, tags and charts can be added, deleted and modified.

Note: For the TOXcontrol application all charts, reports and tables are preinstalled. This means that menu should not be used.

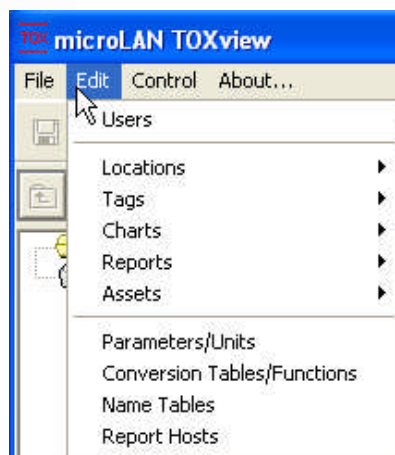


Figure 87: Edit menu

12.2.3 Control menu

From the 'Control-menu you can pop-up the "Period selector" (to define which period you want to consult the measurements) and the "Search" dialog (to search for locations)

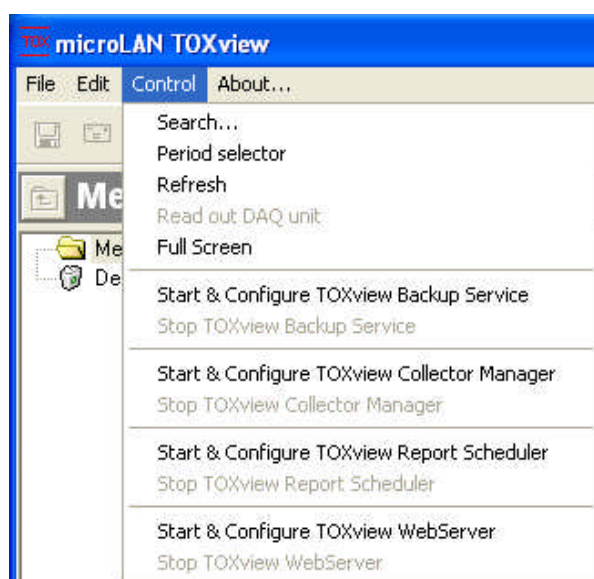


Figure 88: Control menu

Period selector: Activate the period selector.

📖 See: § 12.3 Period selector

Note: Start & Configure functions are only functional with additional software.

12.2.4 About menu

This menu will show the license info of the used TOXview software.

The TOXview software only has full when the license is activated.

Without the license the software is limit in its functionality and cannot be used with the TOXcontrol instrument.

Note: License is pre-installed by each new instrument.

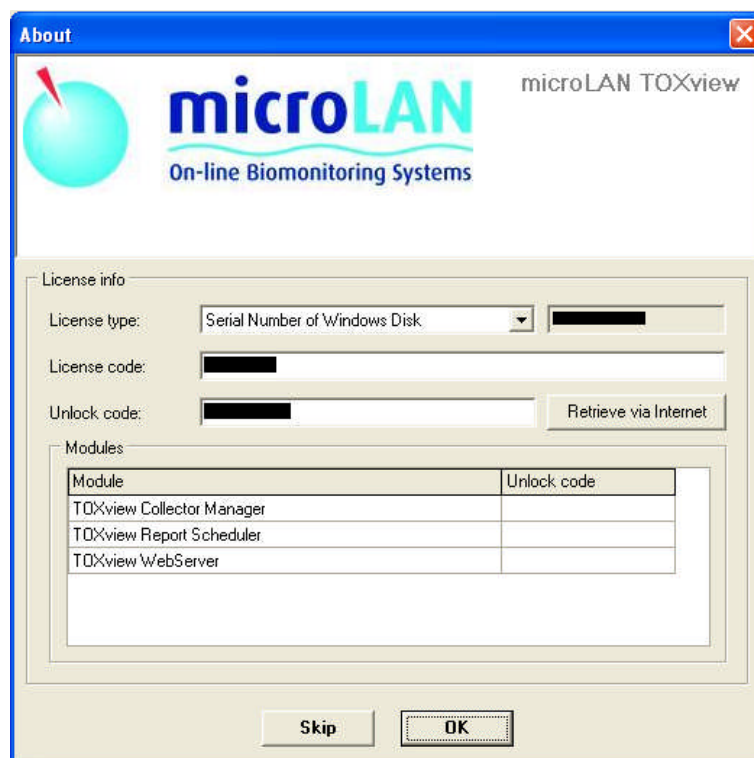


Figure 89: About menu

The TOXview license is related to the serial number of the Windows disk, this means that after replacing the HD or reinstallation the Windows software the license should be re-activated. A new unlock code can be supplied by microLAN, additional costs will be charged.

► Part number: 07TCB00102 TOXview Reinstall license

License type: Serial number of Windows disk: Automatically stored
 License code: Provided with the system software
 Unlock code: Provided by microLAN

12.2.5 Icons

The following icons are displayed in the main menu structure:



See also: § 12.2.1 File menu

12.3 PERIOD SELECTOR

The data in the TOXview software can be displayed in different formats, like tables, charts and more. The period that is displayed can be set with the period selector. When selecting “Selection of period” the following window will appear:

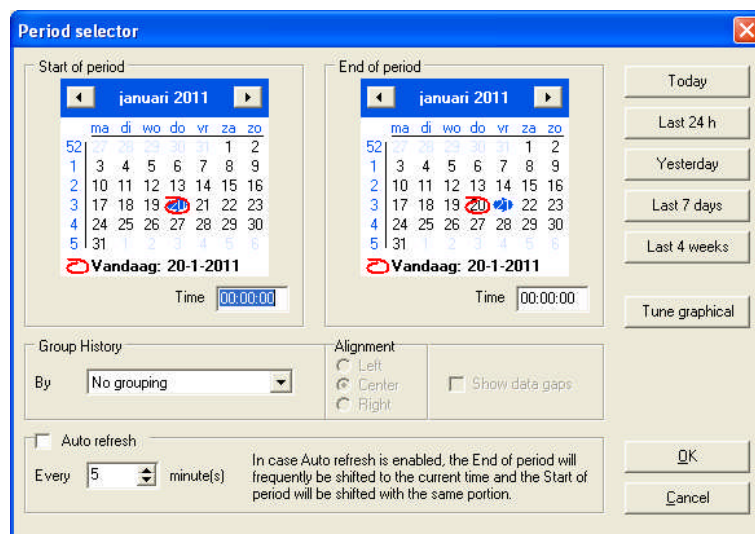


Figure 90: Selection of period

Start of period: Select start date and time

End of period: Select end date and time*

*Auto refresh: The end period of the checkbox is the current time and date. To select a period in the past switch off the auto refresh function.

Today: Auto selection period: Today

Last 24 hours: Auto selection period: Last 24 hours

Yesterday: Auto selection period: Yesterday

Last 4 weeks: Auto selection period: Last 4 weeks

12.4 PAGE SELECTION

On the bottom line of the main screen you can select a page.

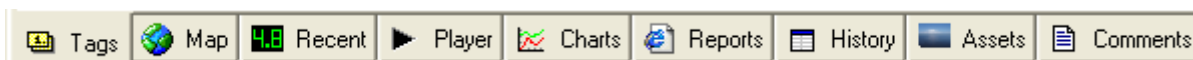


Figure 91: Page selection

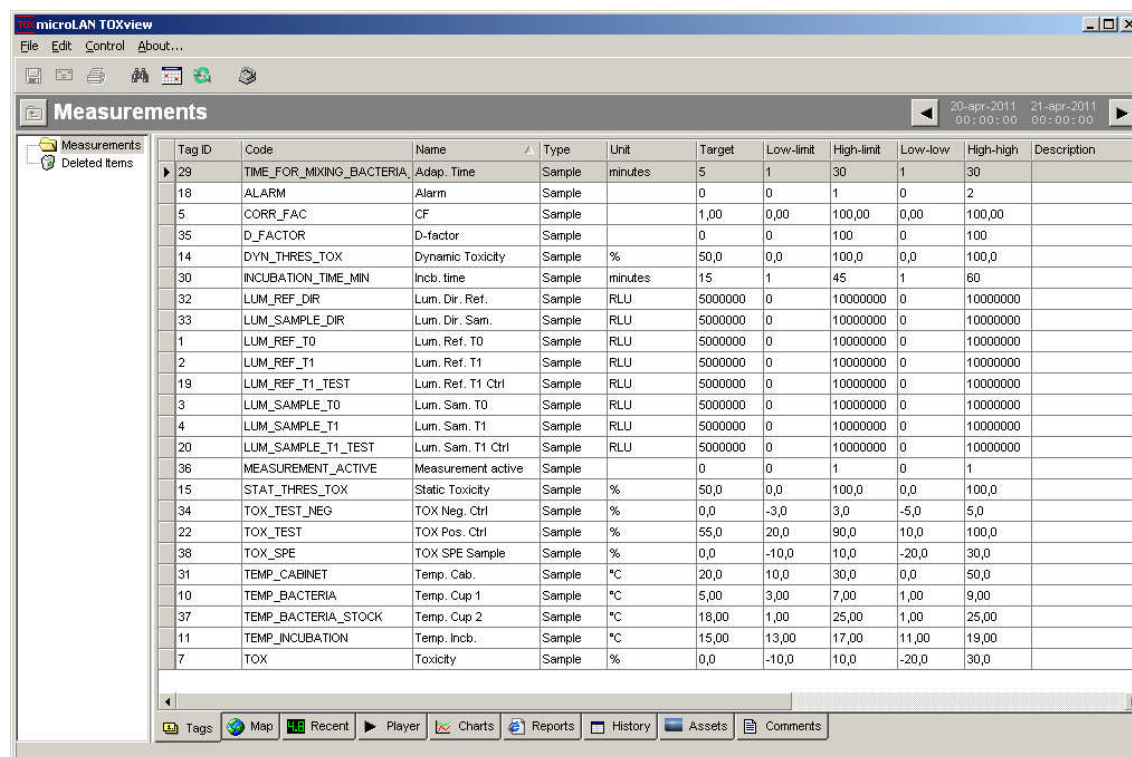
There are 9 pages:

1. 'Tags', showing the list of tags associated to the selected location
2. 'Map', showing the geographical map, CAD drawing or picture of the selected location
3. 'Recent', showing the most recent values of the selected location
4. 'Player', playing back measurements in time
5. 'Charts', showing custom defined charts
6. 'Reports', showing custom defined html reports
7. 'History', showing measurements of the selected location in tabular form
8. 'Assets', showing the assets
9. 'Comments', showing comments of the instrument

12.4.1 Tags

'Tags', showing the list of tags associated to the selected location.

In this screen all tags can be edited, for example change the limit settings.



Tag ID	Code	Name	Type	Unit	Target	Low-limit	High-limit	Low-low	High-high	Description
29	TIME_FOR_MIXING_BACTERIA	Adap. Time	Sample	minutes	5	1	30	1	30	
18	ALARM	Alarm	Sample		0	0	1	0	2	
5	CORR_FAC	CF	Sample		1,00	0,00	100,00	0,00	100,00	
35	D_FACTOR	D-factor	Sample		0	0	100	0	100	
14	DYN_THRES_TOX	Dynamic Toxicity	Sample	%	50,0	0,0	100,0	0,0	100,0	
30	INCUBATION_TIME_MIN	Incub. time	Sample	minutes	15	1	45	1	60	
32	LUM_REF_DIR	Lum. Dir. Ref.	Sample	RLU	5000000	0	10000000	0	10000000	
33	LUM_SAMPLE_DIR	Lum. Dir. Sam.	Sample	RLU	5000000	0	10000000	0	10000000	
1	LUM_REF_T0	Lum. Ref. T0	Sample	RLU	5000000	0	10000000	0	10000000	
2	LUM_REF_T1	Lum. Ref. T1	Sample	RLU	5000000	0	10000000	0	10000000	
19	LUM_REF_T1_TEST	Lum. Ref. T1 Ctrl	Sample	RLU	5000000	0	10000000	0	10000000	
3	LUM_SAMPLE_T0	Lum. Sam. T0	Sample	RLU	5000000	0	10000000	0	10000000	
4	LUM_SAMPLE_T1	Lum. Sam. T1	Sample	RLU	5000000	0	10000000	0	10000000	
20	LUM_SAMPLE_T1_TEST	Lum. Sam. T1 Ctrl	Sample	RLU	5000000	0	10000000	0	10000000	
36	MEASUREMENT_ACTIVE	Measurement active	Sample		0	0	1	0	1	
15	STAT_THRES_TOX	Static Toxicity	Sample	%	50,0	0,0	100,0	0,0	100,0	
34	TOX_TEST_NEG	TOX Neg. Ctrl	Sample	%	0,0	-3,0	3,0	-5,0	5,0	
22	TOX_TEST	TOX Pos. Ctrl	Sample	%	55,0	20,0	90,0	10,0	100,0	
38	TOX_SPE	TOX SPE Sample	Sample	%	0,0	-10,0	10,0	-20,0	30,0	
31	TEMP_CABINET	Temp. Cab.	Sample	°C	20,0	10,0	30,0	0,0	50,0	
10	TEMP_BACTERIA	Temp. Cup 1	Sample	°C	5,00	3,00	7,00	1,00	9,00	
37	TEMP_BACTERIA_STOCK	Temp. Cup 2	Sample	°C	18,00	1,00	25,00	1,00	25,00	
11	TEMP_INCUBATION	Temp. Incub.	Sample	°C	15,00	13,00	17,00	11,00	19,00	
7	TOX	Toxicity	Sample	%	0,0	-10,0	10,0	-20,0	30,0	

Figure 92: Tags

12.4.2 Map

'Map', showing the geographical map, CAD drawing or picture of the selected location

Note: Time period of the data shown is defined in the period selector

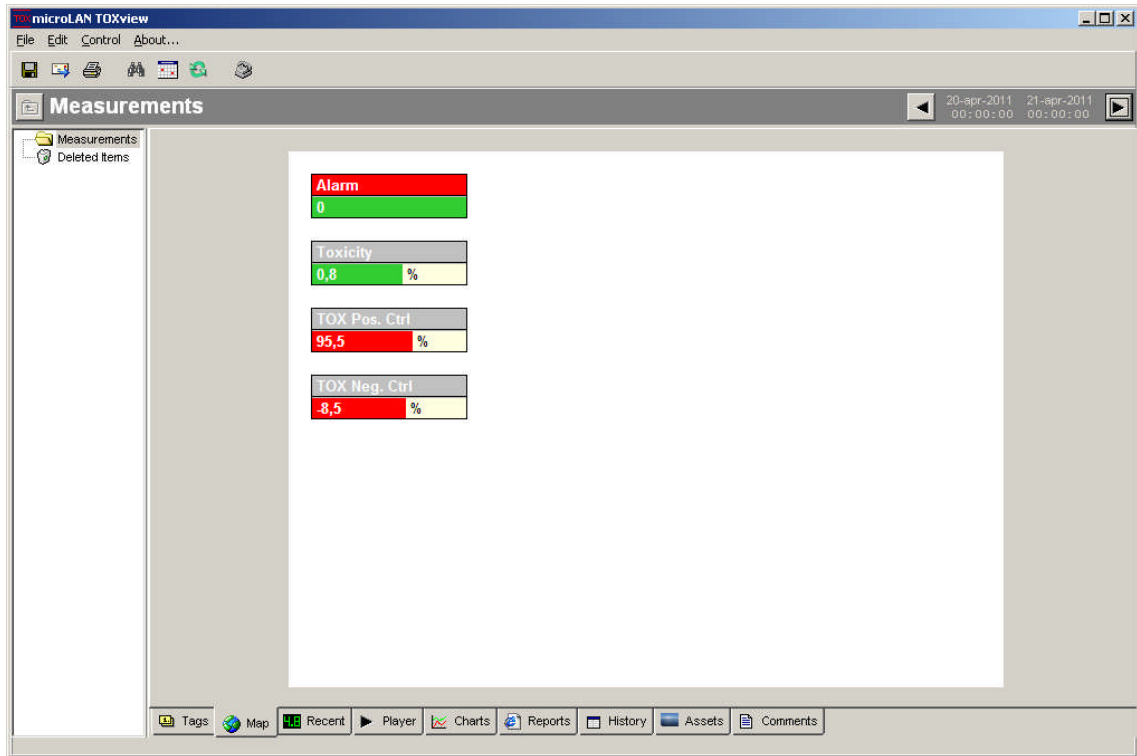


Figure 93: Map

12.4.3 Recent

‘Recent’, showing the most recent values of the selected location

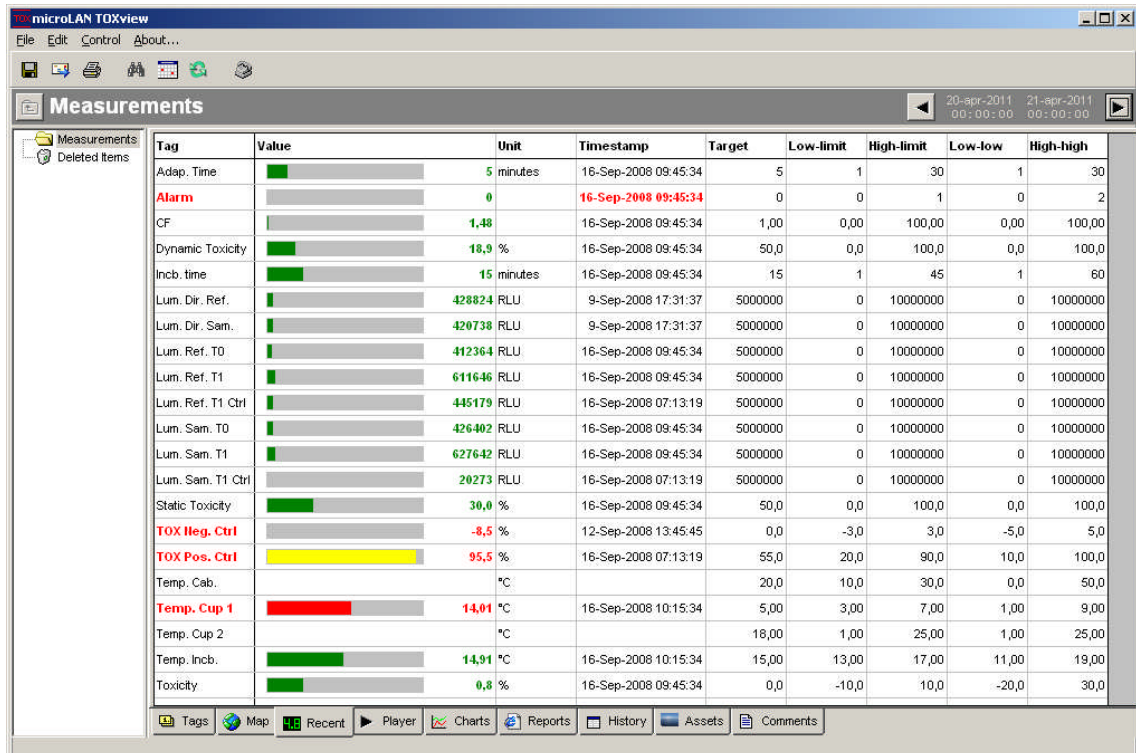


Figure 94: Recent

12.4.4 Player

‘Player’, playing back measurements in time

Note: This page is not used in the TOXview application.

12.4.5 Charts

'Charts', showing custom defined charts.

Note: Time period of the data shown is defined in the period selector

As default the following charts are setup:

1. Toxicity
2. Toxicity detailed
3. S::can
4. S::can + Toxicity
5. Temperatures
6. Direct Luminescence

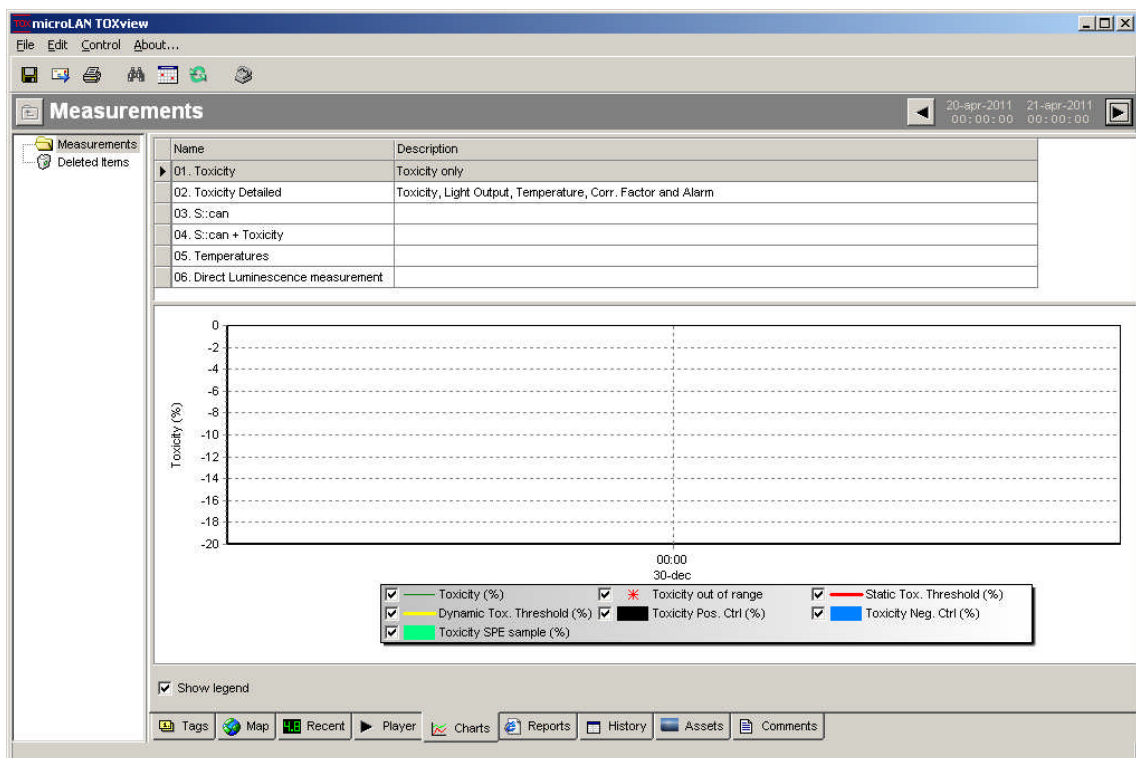


Figure 95: Charts

12.4.6 Reports

'Reports', showing custom defined html reports

Note: Time period of the data shown is defined in the period selector

As default the following charts are setup:

1. Alarm Display
2. Toxicity
3. Comments

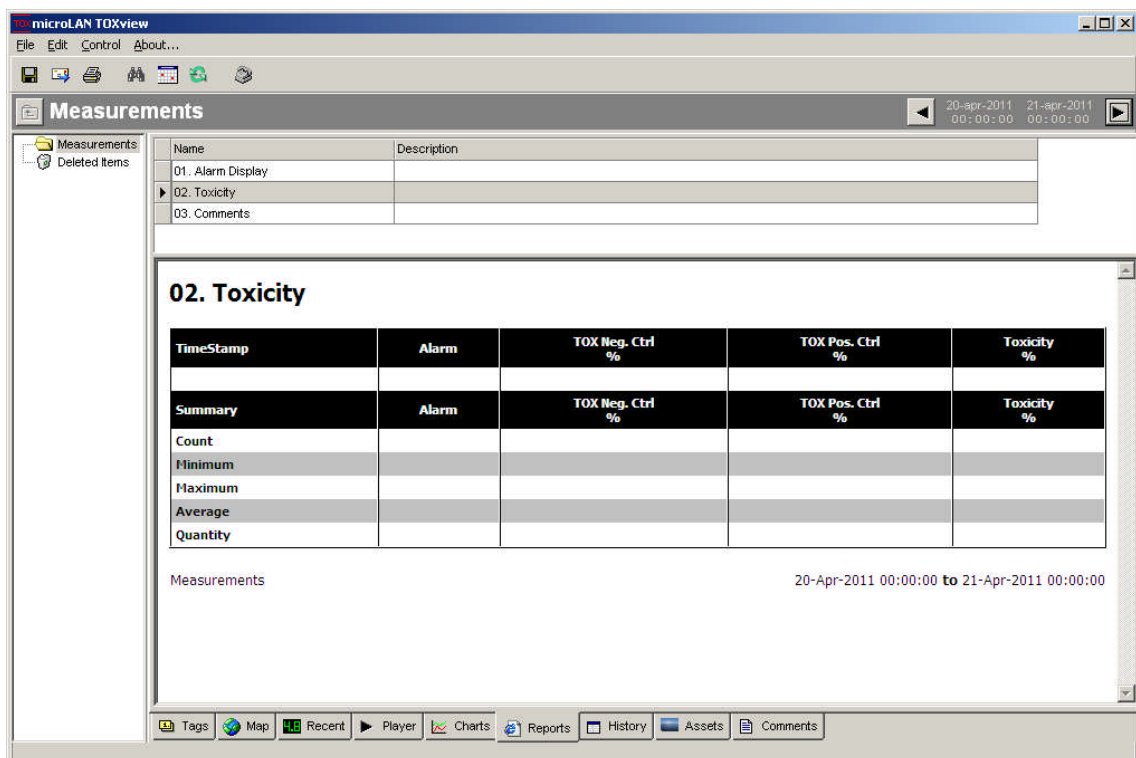


Figure 96: Reports

Examples for reports:

Toxicity Report				
TimeStamp	Alarm	TOX Neg. Ctrl %	TOX Pos. Ctrl %	Toxicity %
16-Apr-2011 17:12:48	0			-1.1
16-Apr-2011 17:38:15	0			-0.1
16-Apr-2011 18:03:41	0			1.2
16-Apr-2011 18:29:06	0			-2.4
16-Apr-2011 18:54:36	0			1.2
16-Apr-2011 19:20:03	0			-0.9
16-Apr-2011 19:45:29	0			-0.5
16-Apr-2011 20:10:59	0			0.5
16-Apr-2011 20:36:27	0			4.5
16-Apr-2011 21:01:55	0			2.6
16-Apr-2011 21:27:21	0			-0.8
16-Apr-2011 21:52:48	0			0.3
16-Apr-2011 22:18:14	0			-1.2
16-Apr-2011 22:43:41	0			0.2
16-Apr-2011 23:09:03		-0.2		
16-Apr-2011 23:34:19	0			-1.8
16-Apr-2011 23:59:42			83.2	
Summary	Alarm	TOX Neg. Ctrl %	TOX Pos. Ctrl %	Toxicity %
Count	15	1	1	15
Minimum	0	-0.2	83.2	-2.4
Maximum	0	0.0	83.2	4.5
Average	0	-0.2	83.2	0.1
Quantity				

Figure 97; Toxicity report

03. Comments		11-Apr-2011 18:00:51 to 13-Apr-2011 16:36:36
<input type="checkbox"/>	Message from program (15)	
<input type="checkbox"/>	High limit exceeded solved (1)	
<input checked="" type="checkbox"/>	Low limit exceeded (4)	
	11-Apr-2011 20:29:44	Temperature Bacteria cup 1, 3.99 < 4
	13-Apr-2011 03:53:27	Temperature Bacteria cup 1, 3.94 < 4
	13-Apr-2011 04:15:38	Temperature Bacteria cup 1, 3.98 < 4
	13-Apr-2011 05:59:04	Volume of Salt solution, 199 < 200
<input type="checkbox"/>	Variable target modified (4)	
<input checked="" type="checkbox"/>	Alarm solved (3)	
	13-Apr-2011 15:55:49	Temperature Bacteria cup 2, 6.33 < 7
	13-Apr-2011 16:03:50	Temperature Bacteria cup 1, 6.34 < 7
	13-Apr-2011 16:17:23	Temperature Bacteria cup 1, 6.16 < 7
<input type="checkbox"/>	Maximal range exceeded solved (1)	
<input type="checkbox"/>	High limit exceeded (2)	
<input type="checkbox"/>	LowLow limit solved (1)	

Figure 98; Comments report

12.4.7 History

'History', showing measurements of the selected location in tabular form

Note: Time period of the data shown is defined in the period selector

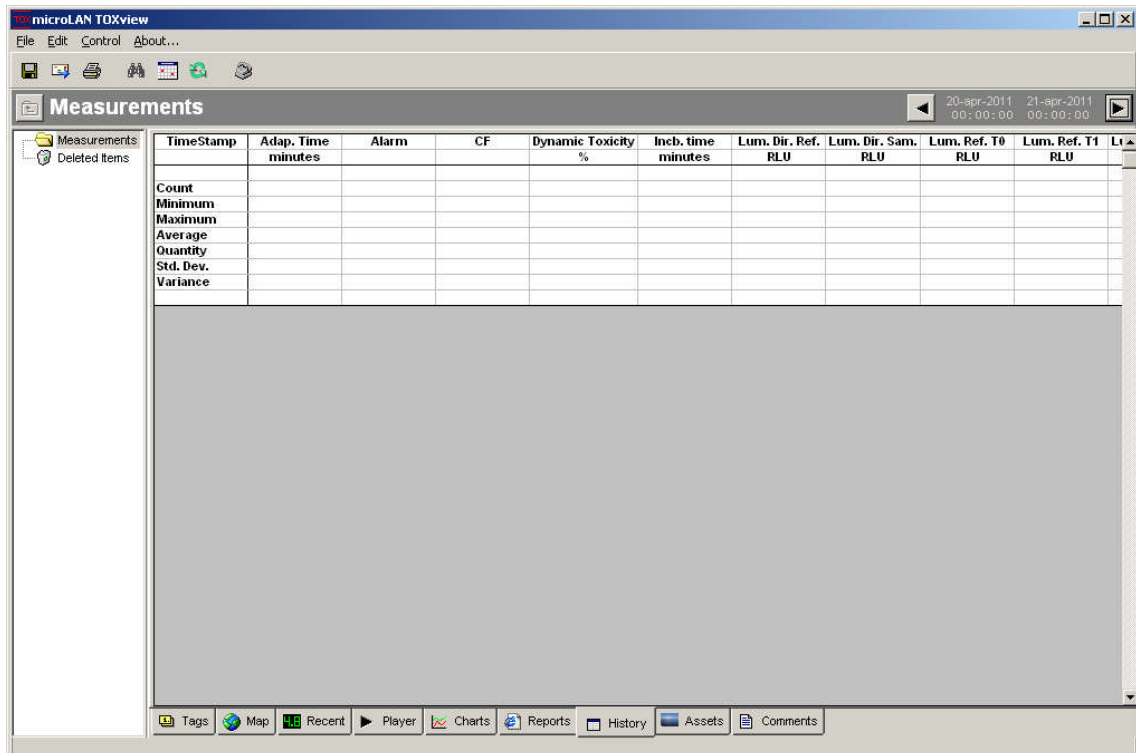


Figure 99: History

12.4.8 Assets

'Assets', showing the assets

Note: This page is not used in the TOXview application.

12.4.9 Comments

'Comments', showing comments of the instrument

Note: Time period of the data shown is defined in the period selector

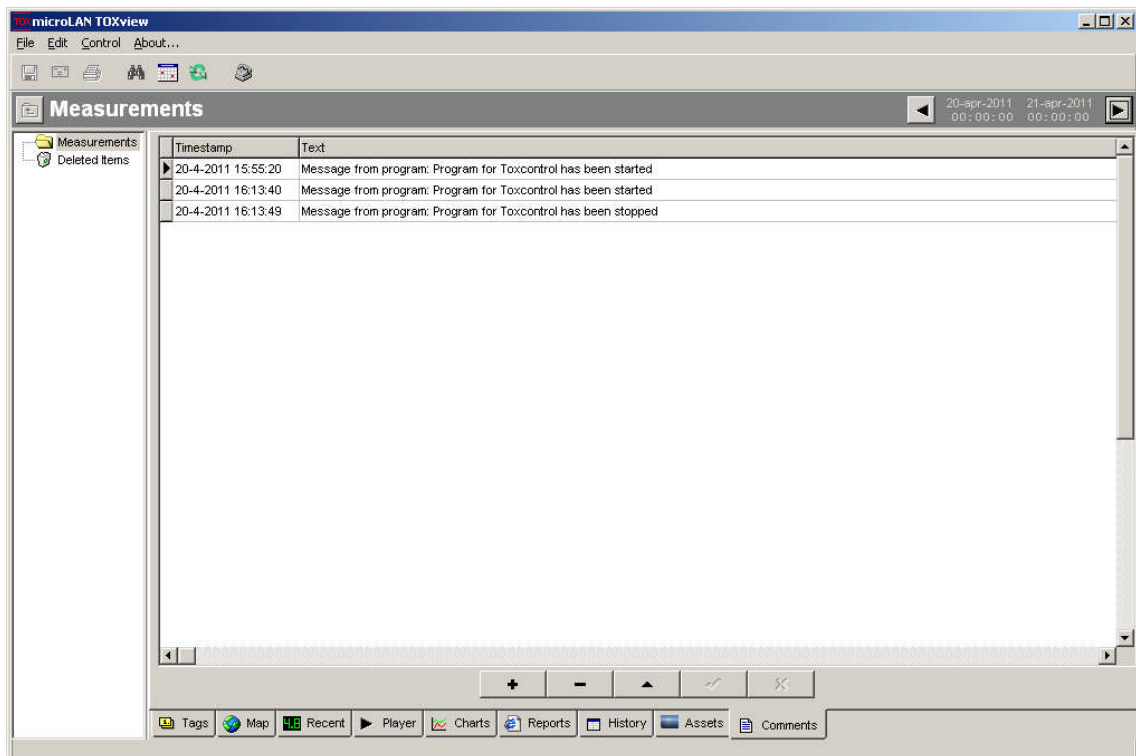


Figure 100: Comments

12.5 DATABASE STRUCTURE

TOXview can run with two types of database structures, SQL and Access based databases.

When the TOXview software is installed from the CD the SQL database structure is default used. The Access database structure is also available.

When the TOXview software is installed from the Internet the Access database structure is used.

To view which database structure is used by your instrument, check as follows:

When the TOXview software is started the following screen is shown:

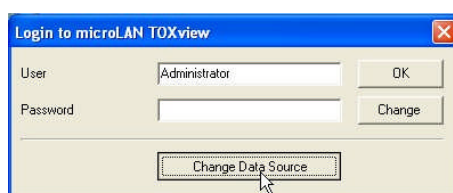


Figure 101: Login TOXview

When the button: "Change Data Source" is pressed the following screens can be displayed. In this screen you can see which database structure is used.

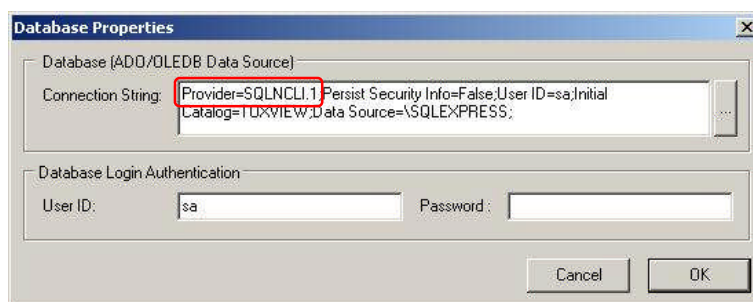


Figure 102: SQL database structure

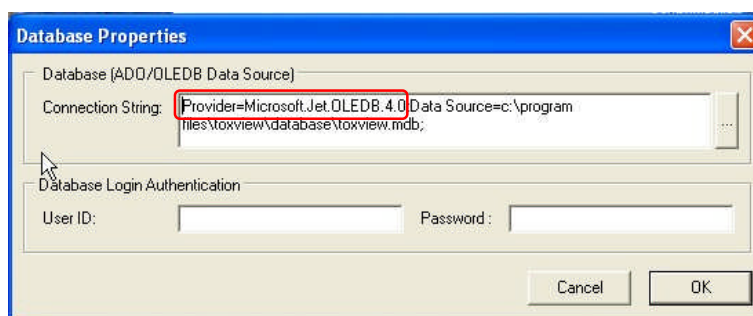


Figure 103: Access database structure

12.6 BACKUP AND RESTORE FUNCTIONS

12.6.1 Backup procedure

Caution: Creating backups on regular basis is very important. Use this backup when the software should be reinstalled.

Creating backups is very important to save your data.

When the hardware (PC or Hard Disc) or software will get damaged all data is gone. When a backup database is created you can always restore the data for the backup database.

Follow this procedure to backup the database.

To backup your database select the 'backup' option from the TOXview 'File'-menu. The following window will appear:

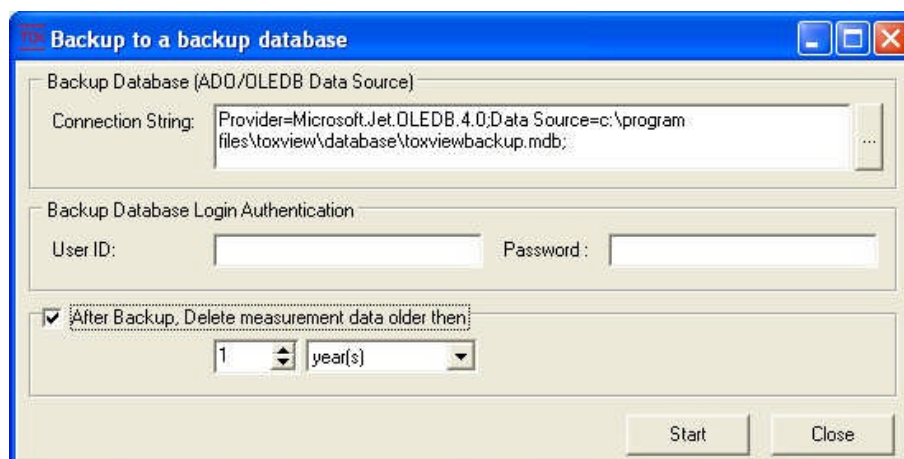


Figure 104: Backup function

The default backup database automatically installed with the setup is an Access database (*C:\Program Files\TOXview\databasetoxviewbackup.mdb*). However it is also possible to use an SQL based database.

When backing up, the entire backup database will be cleared and all existing data, tables and indices will be erased. After a successful backup, the backup database will be an exact copy of the original database. When using the default backup database you can copy the *toxviewbackup.mdb* file to where ever you like in order to archive consecutive backups.

To avoid your actual database reaching its physical size limit, you can specify that data older then a certain time (e.g. 1 month, 2 years, etc...) should be deleted after a successful completion of the backup operation.

After creating a backup of the database make a copy of the following file to a external USB memory device.

C:\Program Files\TOXview\database\toxviewbackup.mdb

Note: Copy the backup of the database on an external source like a USB memory device.

12.6.2 Auto backup procedure

The Backup Service is meant for backing-up an Ms-Access or Ms-SQL-Express automatically at regular intervals (e.g. every day at 07:00) to disk or removable media (e.g. USB-stick).

To configure/start the “Backup Service”, please click from the “Menu”-bar->Control->Start TOXview.

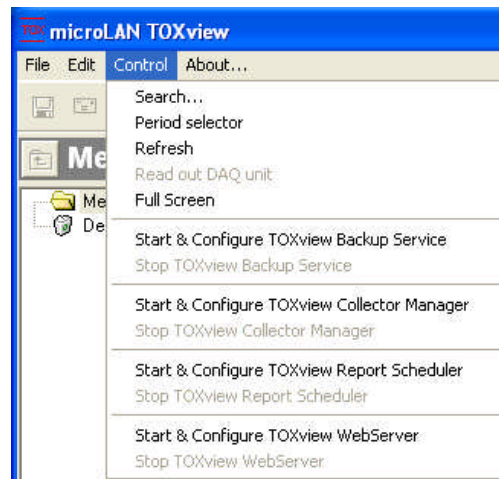


Figure 105: Start & Configure BU

Backup Service and the following screen will pop-up:

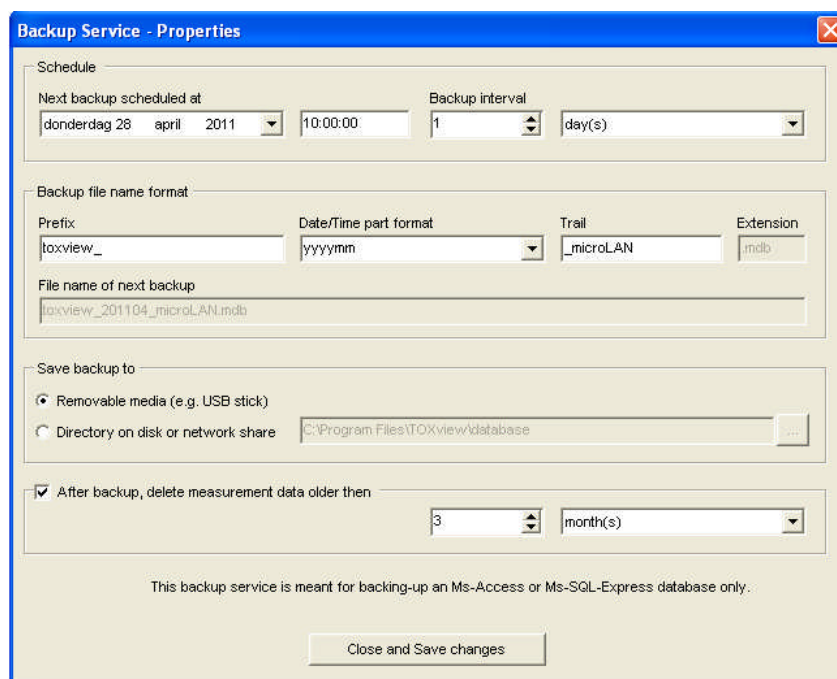


Figure 106: BU properties

Schedule: Specify the backup interval and the date and time when you want the next backup to take place. If a backup fails it is retried every 5 minutes. If a backup succeeds the next backup will be scheduled one interval further.

Backup file name format:

The file name of a backup file may start with a certain prefix and end with a certain trail, the file name extension is fixed (.mdb for Ms-Access and .bak for Ms-SQL). The part between prefix and trail can be formatted based on the 'Backup time'. The default format, to prevent your disks becoming overloaded with backup files, is yyyyymm (e.g. 201104), which will cause max. one backup file per month even when backing up every day. If a backup file already exists, it will be overwritten with the new one with the same name.

The Date/Time part format string is composed from specifiers that represent values to be inserted into the formatted string. Some specifiers (such as "d"), simply format numbers or strings. Other specifiers (such as "/") refer to locale-specific strings from global variables.

In the following table, specifiers are given in lower case. Case is ignored in format specifiers.

Specifier	Displays
d	Displays the day as a number without a leading zero (1-31).
dd	Displays the day as a number with a leading zero (01-31).
ddd	Displays the day as an abbreviation (Sun-Sat) using the strings given by the ShortDayNames global variable.
dddd	Displays the day as a full name (Sunday-Saturday) using the strings given by the LongDayNames global variable .
m	Displays the month as a number without a leading zero (1-12). If the m specifier immediately follows an h or hh specifier, the minute rather than the month is displayed.
mm	Displays the month as a number with a leading zero (01-12) . If the mm specifier immediately follows an h or hh specifier, the minute rather than the month is displayed.
mmm	Displays the month as an abbreviation (Jan-Dec) using the strings given by the ShortMonthNames global variable.
mmm	Displays the month as a full name (January-December) using the strings given by the LongMonthNames global variable.
yy	Displays the year as a two-digit number (00-99).
yyyy	Displays the year as a four-digit number (0000-9999).

Table 8: Backup file format

Save backup to: Specify the location where a backup file should be saved to, this can be a fixed location on a (network) disk or this could be a removable media storage (e.g. an USB-stick).

In case of saving to a removable media, the backup file will be saved to the removable media with the lowest 'Driver'-letter. E.g. if two USB-sticks are connected one with 'Driver'-letter E:\ and one with F:\ the backup file will be written to E:\.

As soon as a removable media is attached and the next backup schedule date was already reached, the Service will immediately start to backup to the removable media. When a backup to a removable media is completed, the service will play the Windows confirmation sound or the Windows warning sound in case of an error.

Delete old data: To avoid that your database will reach its physical size limit, you can specify that data older then a certain time (e.g. 1 month, 2 years, etc...) should be deleted after a successful completion of the backup operation.

Starting the Backup Service: After closing the properties screen, you can choose to run the backup utility as a 'Service' or as an 'Application'. When started as a 'Service' the first time, the 'Backup Service' will be installed as a system service. System services will automatically start after re-boot, this assures that it starts running even after an un-attendant re-boot (e.g. after a power-failure).

Follow the following steps:

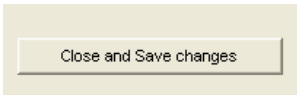
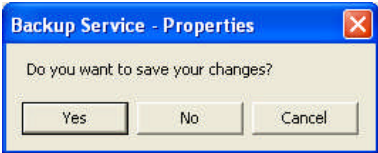
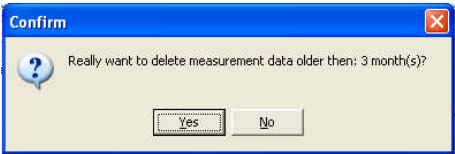
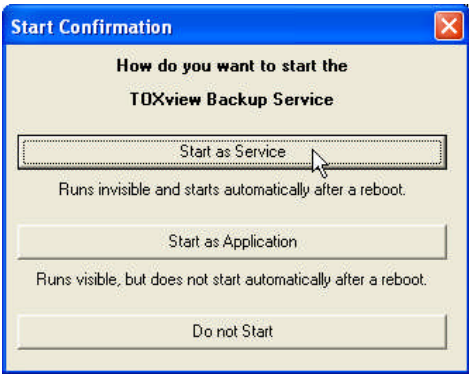
1	 <p><i>Figure 107: Close & save</i></p>	Select "Close and Save changes"
2	 <p><i>Figure 108: Confirm 1</i></p>	Confirm "Yes" to save changes
3	 <p><i>Figure 109: Confirm 2</i></p>	Confirm "Yes" to delete old data
4	 <p><i>Figure 110: Start as Service</i></p>	Select "Start as Service"

Table 9: Start BU service

Stopping the Backup service:

Follow the following steps:

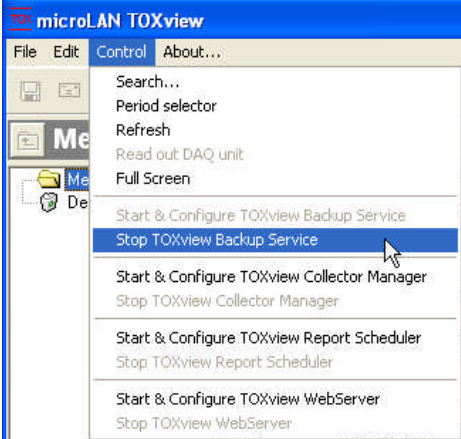
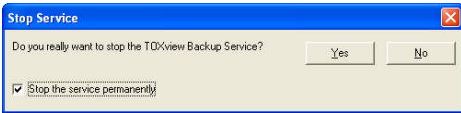
1	 <p><i>Figure 111: Stop BU service</i></p>	<p>Select “Stop TOXview Backup Service” to stop the service. After stopping the service settings can be changed.</p>
2	 <p><i>Figure 112: Confirm stop</i></p>	<p>Confirm “Yes” to stop the Backup function. Select “Stop the service permanently”</p>

Table 10: Stop BU service

12.6.3 Restore procedure

Follow this procedure to restore the database into your actual database.

To restore your database select the 'restore' option from the TOXview 'File'-menu. The following window will appear:

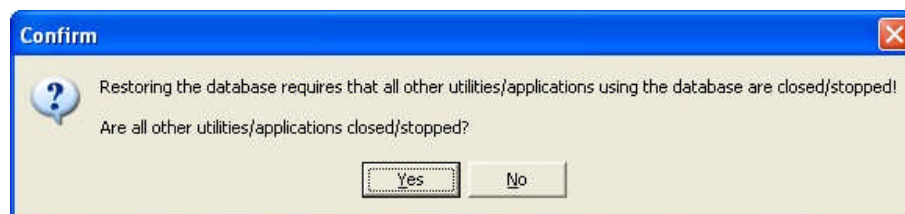


Figure 113: Restore function 1

Stop and shutdown the TOXcontrol Engine software. When done select: "Yes" The following window will appear:

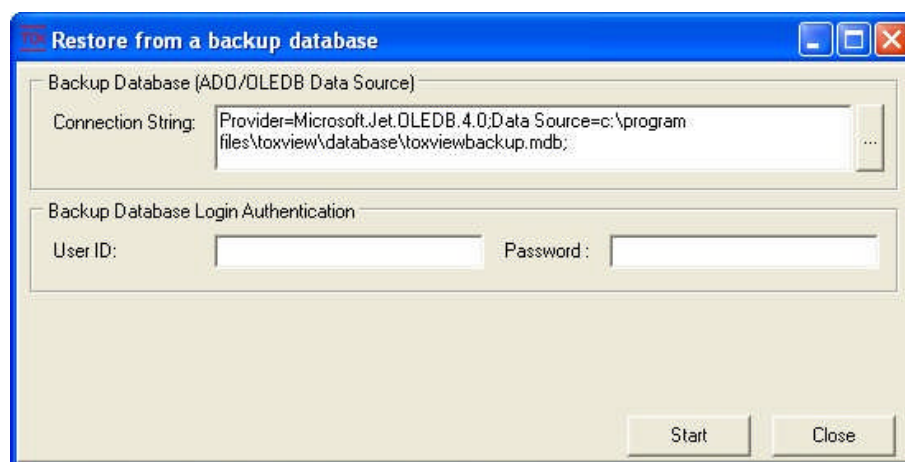


Figure 114: Restore function 2

Place the backup database at the following location:
C:\Program Files\TOXview\database\toxviewbackup.mdb

Press "Start" to start the restore procedure.

Caution: The restored database will overwrite the original database.

13. EXTRA DATA FILES

The instrument stores the data also in several different file formats. These files can be found in the following map: C:\MICROLAN

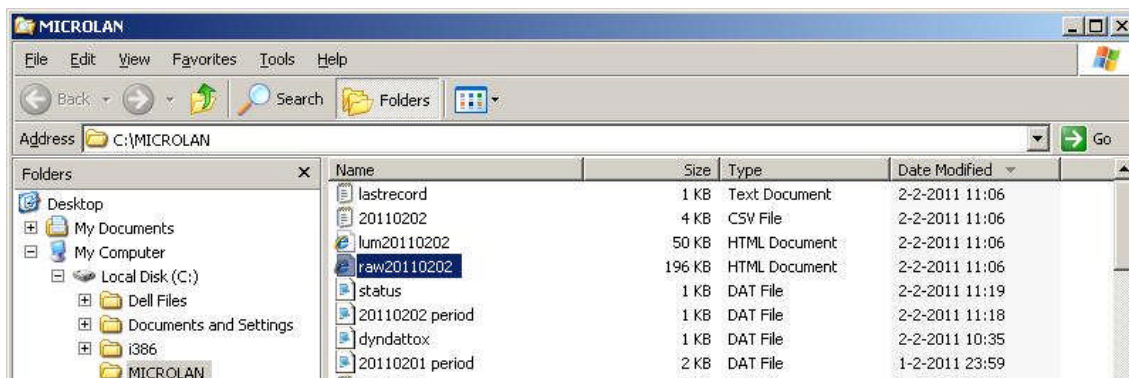
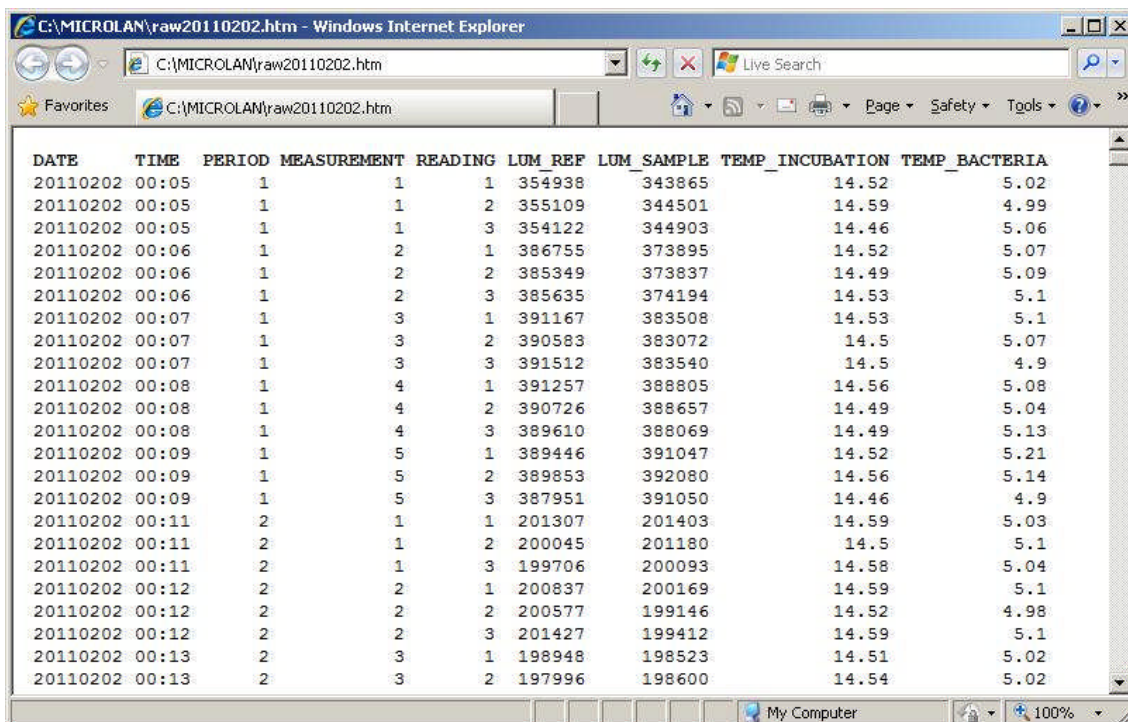


Figure 115: Extra data files

13.1 RAW DATA FILES

All measurement data can be found in the RAW data files. In these files all luminescence measurements are stored.

The RAW data file is displayed in HTML format, so it's easier to read.



DATE	TIME	PERIOD	MEASUREMENT	READING	LUM_REF	LUM_SAMPLE	TEMP_INCUBATION	TEMP_BACTERIA
20110202	00:05	1	1	1	354938	343865	14.52	5.02
20110202	00:05	1	1	2	355109	344501	14.59	4.99
20110202	00:05	1	1	3	354122	344903	14.46	5.06
20110202	00:06	1	2	1	386755	373895	14.52	5.07
20110202	00:06	1	2	2	385349	373837	14.49	5.09
20110202	00:06	1	2	3	385635	374194	14.53	5.1
20110202	00:07	1	3	1	391167	383508	14.53	5.1
20110202	00:07	1	3	2	390583	383072	14.5	5.07
20110202	00:07	1	3	3	391512	383540	14.5	4.9
20110202	00:08	1	4	1	391257	388805	14.56	5.08
20110202	00:08	1	4	2	390726	388657	14.49	5.04
20110202	00:08	1	4	3	389610	388069	14.49	5.13
20110202	00:09	1	5	1	389446	391047	14.52	5.21
20110202	00:09	1	5	2	389853	392080	14.56	5.14
20110202	00:09	1	5	3	387951	391050	14.46	4.9
20110202	00:11	2	1	1	201307	201403	14.59	5.03
20110202	00:11	2	1	2	200045	201180	14.5	5.1
20110202	00:11	2	1	3	199706	200093	14.58	5.04
20110202	00:12	2	2	1	200837	200169	14.59	5.1
20110202	00:12	2	2	2	200577	199146	14.52	4.98
20110202	00:12	2	2	3	201427	199412	14.59	5.1
20110202	00:13	2	3	1	198948	198523	14.51	5.02
20110202	00:13	2	3	2	197996	198600	14.54	5.02

Figure 116: RAW data file

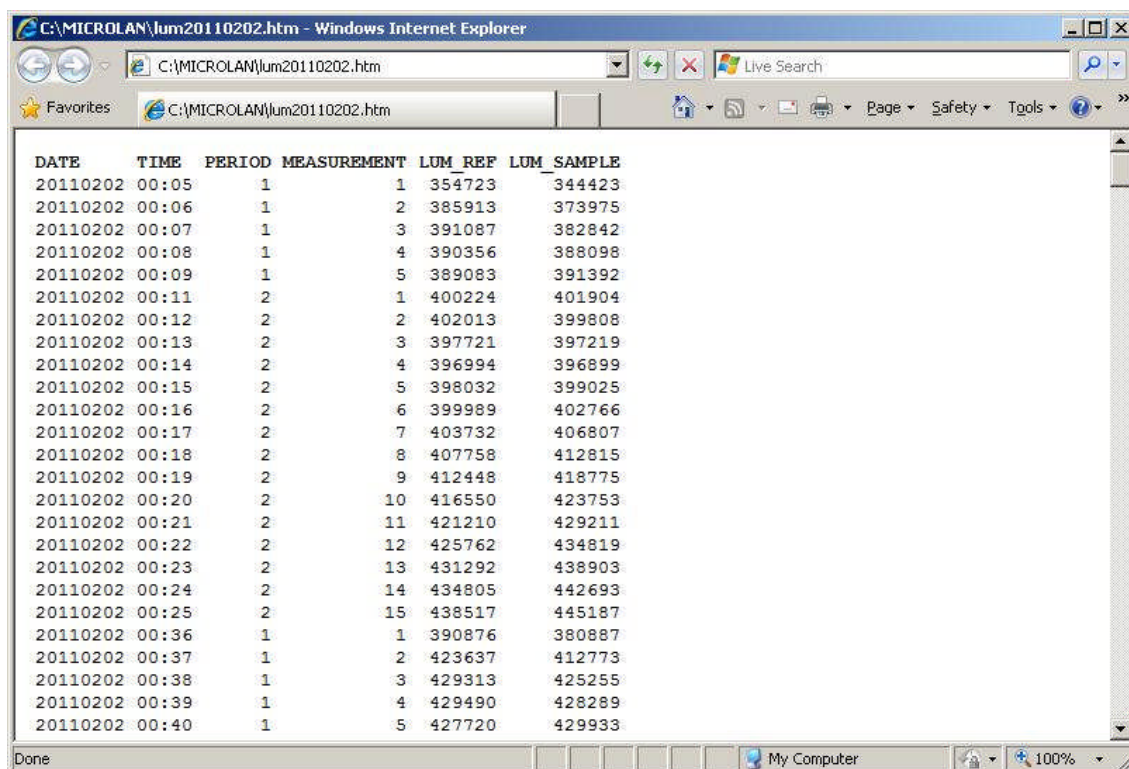
Date: Date stamp of the measurement
Time: Time stamp of the measurement
Period: 1 = Adaption period
2 = Incubation period

Measurement:	Number of measurement in the active period
Reading:	Number of reading in a measurement (default: 3 readings during 1 measurement). The average of 3 readings is used for the final calculations.
Lum_Ref:	Luminescence reference water
Lum_Sample:	Luminescence sample water
Temp_Incubation:	Temperature mixing module
Temp_Bacteria:	Temperature actual bacteria cup in bacteria module

13.2 LUM DATA FILES

All luminescence data can be found in the LUM data files. In these files are luminescence measurements are stored. The luminescence value is a calculated value of the 3 readings.

The LUM data file is displayed in HTML format, so it is easier to read.



DATE	TIME	PERIOD	MEASUREMENT	LUM_REF	LUM_SAMPLE
20110202	00:05	1	1	354723	344423
20110202	00:06	1	2	385913	373975
20110202	00:07	1	3	391087	382842
20110202	00:08	1	4	390356	388098
20110202	00:09	1	5	389083	391392
20110202	00:11	2	1	400224	401904
20110202	00:12	2	2	402013	399808
20110202	00:13	2	3	397721	397219
20110202	00:14	2	4	396994	396899
20110202	00:15	2	5	398032	399025
20110202	00:16	2	6	399989	402766
20110202	00:17	2	7	403732	406807
20110202	00:18	2	8	407758	412815
20110202	00:19	2	9	412448	418775
20110202	00:20	2	10	416550	423753
20110202	00:21	2	11	421210	429211
20110202	00:22	2	12	425762	434819
20110202	00:23	2	13	431292	438903
20110202	00:24	2	14	434805	442693
20110202	00:25	2	15	438517	445187
20110202	00:36	1	1	390876	380887
20110202	00:37	1	2	423637	412773
20110202	00:38	1	3	429313	425255
20110202	00:39	1	4	429490	428289
20110202	00:40	1	5	427720	429933

Figure 117: LUM data file

Date:	Date stamp of the measurement
Time:	Time stamp of the measurement
Period:	1 = Adaption period 2 = Incubation period
Measurement:	Number of measurement in the active period
Lum_Ref:	Luminescence (average of 3 readings) reference water
Lum_Sample:	Luminescence (average of 3 readings) sample water

13.3 DATA OF ONE DAY

In the directory: C:\microlan is a file called: "20110202.csv" this file contains all data of one day, this means that there is a file for each day (filename=date). This file has a header where all parameters are displayed.

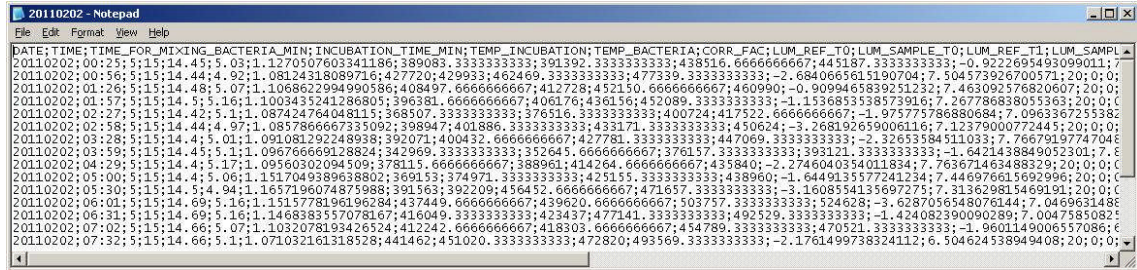


Figure 118: Data day file

13.4 LAST RECORD FILE

In the directory: C:\microlan is a file called: "lastrecord.log" this file contains 1 line with the data of the last measurement. This line is refreshed after each new measurement, so this is always the last measurement data.

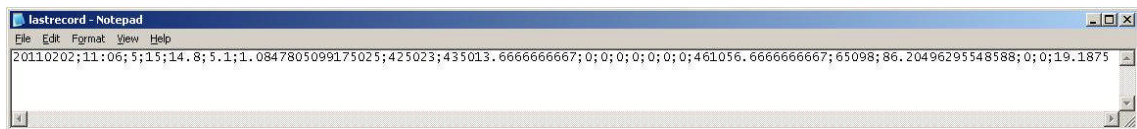


Figure 119: Last record file

14. ADVANCED SOFTWARE ITEMS:

Caution: These procedures should be performed by trained personal only.

14.1 UPDATE TOXVIEW

- Step 1: Download file “toxviewupdate.exe” from the site:
<http://www.projex.nl/download/>
- Step 2: Copy this file to the desktop of the computer of the instrument.
- Step 3: Close TOXview and TOXengine software.
- Step 4: Double click on the file: “toxviewupdate.exe” and follow the instructions on the screen.

14.2 CHANGE FROM SQL TO ACCESS DATABASE

Note: Access database is more stable after power failures.

- Step 1: Backup database
 📖 See: § 12.6.1 Backup procedure
- Step 2: Close TOXview and TOXcontrol Engine software
- Step 3: Start TOXview software and press “Change Data Source”

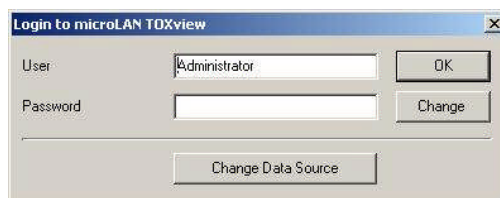


Figure 120: Login

- Step 4: Delete the actual Connection string

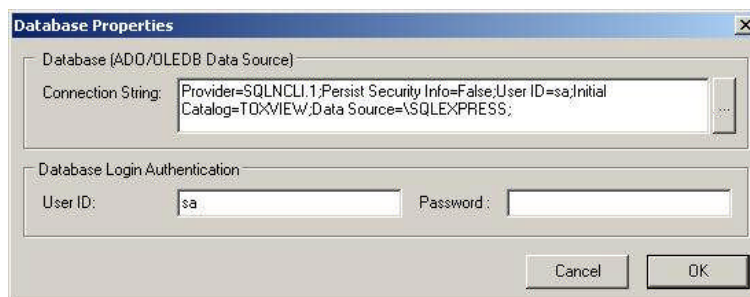


Figure 121: Database Properties

- Step 5: Press the “...” button

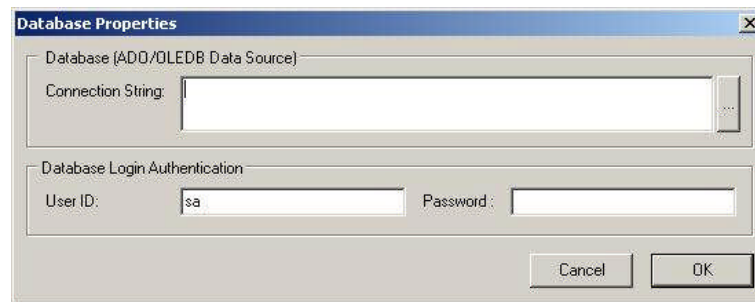


Figure 122: Database Properties

Step 6: Select the option: Microsoft Jet 4.0 OLE DB Provider and press “Next”

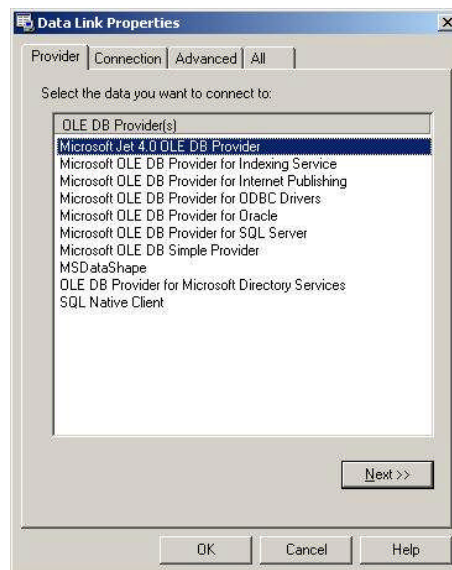


Figure 123: Datalink Properties

Step 7: Browse to the database location by pressing “...” button

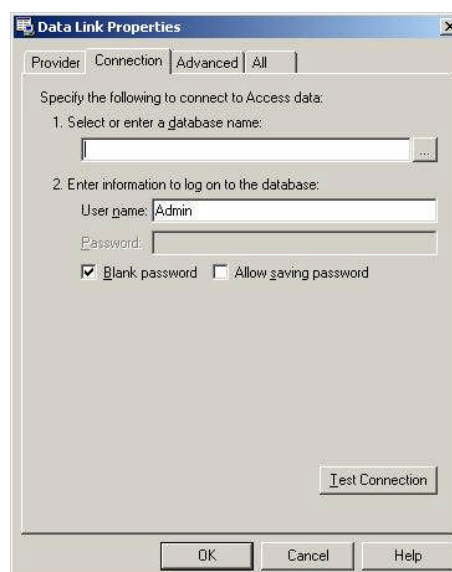


Figure 124: Datalink Properties

Step 8: Select the database at the following location:
C:\Program Files\TOXview\database\toxview.mdb
and press “open”

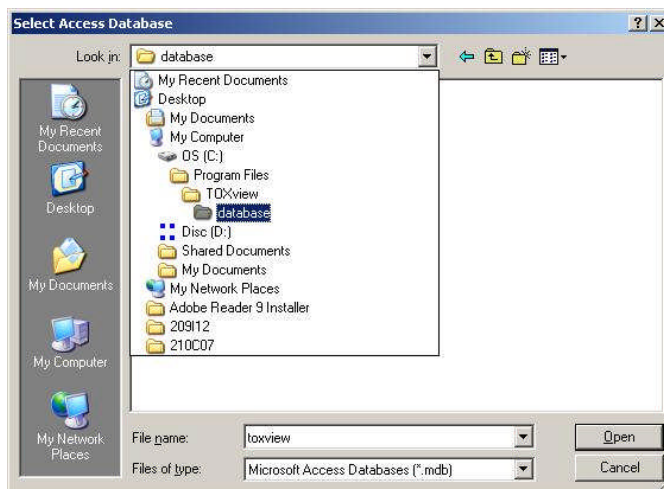


Figure 125: Selection screen

Step 9: Press “Test Connection” in the following screen

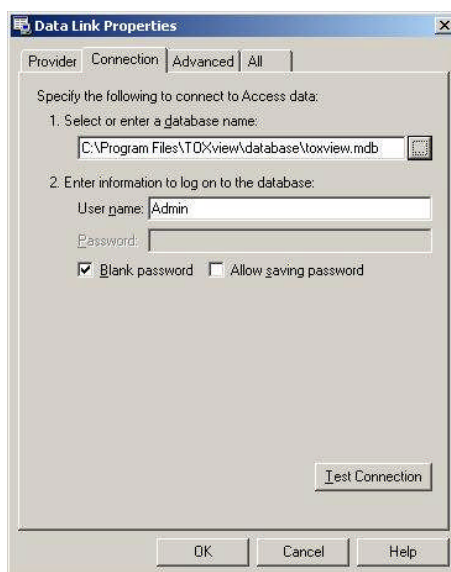


Figure 126: Datalink Properties

Step 10: The following window will appear:

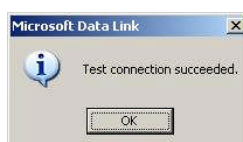


Figure 127: Confirmation

Step 11: Press “OK”

Step 12: Press “OK” in window step 9.

Step 13: The following window will appear:



Figure 128: Confirmation

Step14: Press “OK” and the database in TOXview is changed to Access.
 You can login in TOXview with User: “Administrator” and Password: “toxview”
 When this is not working (because of the e.g. Chinese language settings) you should perform the change password procedure.

 See: § 14.4 Set password for TOXview

Step15: Restore database

 See: § 12.6.3 Restore procedure

14.3 PC SETTINGS FOR ASIAN LANGUAGE SUPPORT:

Note: Application with language support needs to be installed

Step 1: Press start > Control panel > Regional and Language Options
 The following screen will appear:

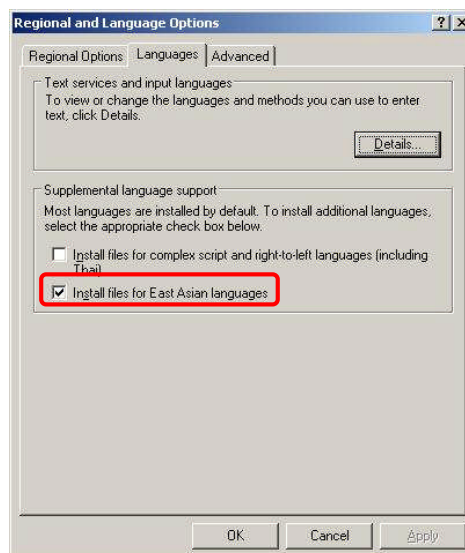


Figure 129: Asian languages

Select: “Install files for East Asian languages” and press “Apply”

Step 2: Restart computer

Step 3: Press start > Control panel > Regional and Language Options
 The following screen will appear:

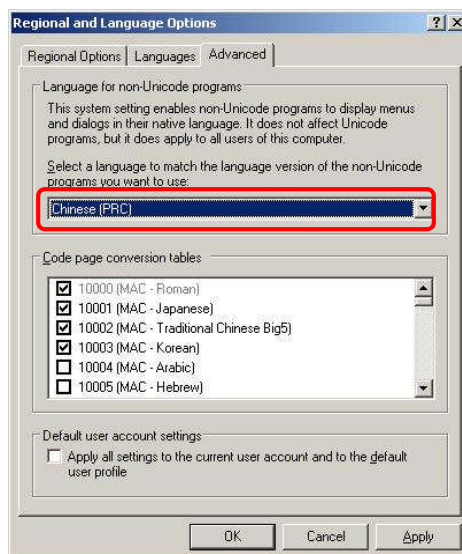


Figure 130: Asian Languages advanced

Select the language: For example: Chinese (PRC) and press” Apply”

Step 4: Restart computer

14.4 SET PASSWORD FOR TOXVIEW

Step 1: Download the file: SQLEditorADO.exe from the site:

<http://www.projex.nl/download/>

Step 2: Run SQLEditorADO.exe (See figure 1 screen dump in item 4)

Step 3: Type in the “ADO Connection String” line
(See figure 1 screen dump in item 4):
Provider=Microsoft.Jet.OLEDB.4.0;Data Source=C:\Program Files\TOXview\database\toxview.mdb;Persist Security Info=False

Step 4: Type in the “SQL Queries” line (See screen dump in step 4):
UPDATE USERS SET USERPSW='toxview'

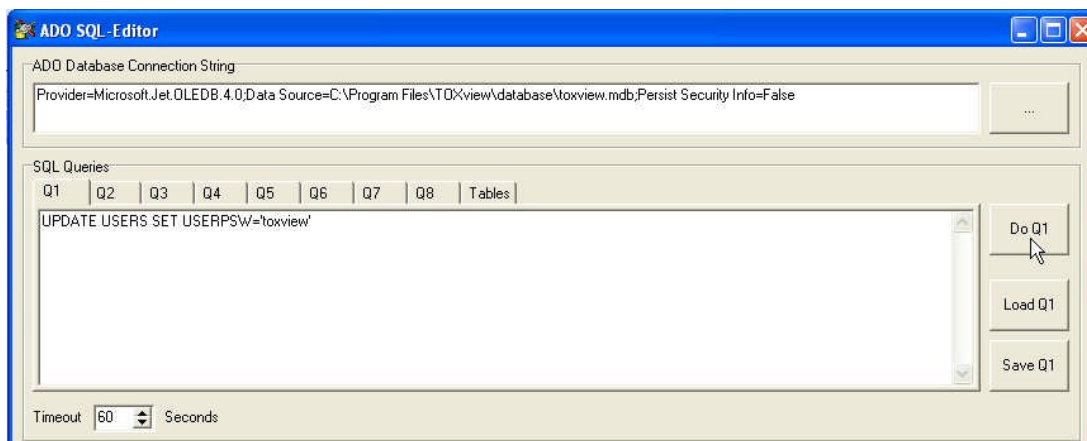


Figure 131: ADO SQL-Editor

Step 5: Press “Do Q1”-button, the following screen will appear.

Step 6: User name and password can left blank and press “OK”

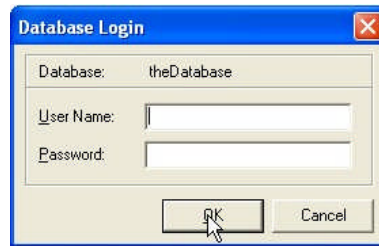


Figure 132: Login

Step 7: Press “Yes” and the procedure is finished.

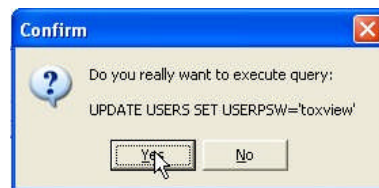



Figure 133: Confirm

Step 8: Close all windows and start TOXview software, you can login with the password: toxview.

14.5 REINSTALLING TOXVIEW SOFTWARE

When hardware problems occur the software can be reinstalled by using the CD or the USB memory device.


Note: When the Hard disk (HD) needs to be replaced contact your technical support agent for a new license code.

 See:§ 12.2.4 About menu

14.5.1 Use following steps to reinstall the software

Step 1: Put the CD or the USB memory device in the computer and follow the instructions on the screen.


Step 2: Activate the TOXview license.

 See:§ 12.2.4 About menu


Step 3: Update the TOXview software.

 See:§ 14.1 Update TOXview


Step 4: Install the latest application version.

 See:§ 9.6.4 Loading application

Step 5: Restore the database.

 See:§ 12.6.3 Restore procedure


Step 6: Adjust the position steps.

 See:§ 10.14 Maintenance: Adjust step positions tips

15. FAQ'S ITOXCONTROL

Q: When the “Start bacteria cultivation Procedure” will not start.

A: Switch the engine off and shortly after that on.

 See:§ 9.3 Engine

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