

Advanced Test Equipment Corp. www.atecorp.com 800-404-ATEC (2832)

OPERATING GT5000 TERRA FTIR GAS ANALYZER QUICK GUIDE

Requires that the Hazmat Application Library located in the folder C:\Identification Tool _ SNxxxxx has been loaded into the Calcmet EASY or EXPERT software

Check the GT5000 & Calcmet manuals for full user instructions or contact local representative or Gasmet

Gasmet Technologies

Tel: 1-866-685-0050

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GT5000 Terra Portable FTIR multi-gas Analyzer Components





😼 gasmet





Gasmet Tablet





Gasmet Sample Probe with 1. Teflon Tubing (white) recommended for sampling 2. Tygon tubing (Clear) recommended for background measurement

Gasmet USB Stick – All manuals, software and documentation And HASP Keys









BATTERY HATCH & POWER CONNECTION



Door Closed

~ 3Hrs. Battery Life & 4 Hrs. Recharge time







GT5000 Front Panel



- 1. Remove rubber dust protection from GT5000 front panel
- 2. Apply Power
- 3. Attach Sample Connector (Tubing & Probe) to Sample In
- 4. Turn the Power Button to the desired communication mode
- 5. Open Calcmet on Tablet (or laptop)

GT5000 & Calcmet EASY Communication Settings



GT5000 Setting

1. Turn Control switch to communication mode

- Cable - Wifi

- Bluetooth (default)

2

Calcmet EASY Setting (no action required unless troubleshooting a communication issue)

MENU	Configuration settings	
Select Application	Analyzer Miscellaneous	
Edit Application	Made Bustoth	
Load Spectrum	USB	
Save Spectrum	Baud rate: Bluetooth TCP/IP	
င့်ဝှိနဲ့ Configuration	Bluetooth Address: 04-ca:5e:89:07:2	
C Meaning rimes	IP Address: 192 168 64 64	
Autosaving	57.000 0000000	
الم المعالية (م) Analyzer Setup	Port: 1000	
Support Package		
(?) Help		
Calcmet Expert		

2. In Calcmet EASY Choose the GT5000 Mode of Operation

Default setting is Bluetooth





Running Calcmet[™] EASY on Gasmet Tablet



Galcr	met - [Analysis Results - HAZMAT_Appli	cation.CUB: 1969-1	12-31 16:00:00]				
MDHJ			B (5)	60	X stop		
Ch	Component	Concentration	Unit			Range	Residual
0001	Carbon monoxide (CO)	0.00	ppm			200	0.0000
0002	Nitrogen monoxide (NO)	0.00	ppm			200	0.0000
0003	Sulfur dioxide (SO2)	0.00	ppm			50	0.0000
0004	Hydrogen cyanide (HCN)	0.00	ppm			50	0.0000
0005	Hydrogen fluoride (HF)	0.00	ppm			50	0.0000
0006	Hydrogen chloride (HCI)	0.00	ppm			50	0.0000
0007	Ammonia (NH3)	0.00	ppm			50	0.0000
8000	Methane (CH4)	0.00	ppm			100	0.0000
0009	Carbon dioxide (CO2)	0.00	ppm			2000	0.0000
0010	Water vapor	0.00	vol-%			3	0.0000
3003	Cell temperature	0.00	С			70	0.0000

- 1. Turn on Tablet
- 2. Double Tap Calcmet Icon with Stylus or Finger
- 3. Wait 10-20 secs for Calcmet EASY screen
 - (last application library used will automatically load _ Default is Hazmat_Application)



Calcmet EASY Software



Five different screens available

(each screen is separate not as shown above)



Check Hardware Status

Click Hardware



Checks that the analyzer is ready to measure 'Hardware status is **OK**' is displayed if analyzer is ready to measure.

If 'Hardware status is Not OK' is displayed Click on Details. Contact Gasmet or representative if Status 'OK' cannot be displayed after waiting further warm-up time.

		1
Description	Value	Unt
Status	OK)
Software version	1.400	-
Time	2019-10-07 14:37:40	
Resolution	7.72	1/cm
Data range	594.4 - 4400.4	1/cm
Path length	500	
Sample line	0	
Sample scans	10	
Serial number	77	
Analyzer type	GT5000 Terra	
Cell temperature	36.29	°C
Pressure	1016.70	mbar
Pressure configuration	AP	
Battery relative state of charge	e NA	
Input 1: 0 00	Input 5: 0.00	
Input 2: 0.00	Input 5: 0.00	
Input 3: 0.00	Input 7: 0.00	
Input A: 0.00	Ten + 2 0.00	
mpor 4: 0.00	Input 8: 0.00	
Details Upd	ate Conv Ca	ncel

If error occurs after clicking Hardware, check settings according to slide "GT5000 & Calcmet EASY Communication Settings "



Verify GT5000 is functioning correctly





- 1. Connect the sampling line with probe to the **Sample IN** port on the analyzer front panel.
- 2. One single measurement where the pump is not activated can be taken by clicking 5 or 6
- 3. Start a continuous measurement where pump is automatically started by clicking

4. Continuous measurement starts, and results are updated to the screen at end of each cycle.

5. Check that OK is displayed

> Know what's in the air.

MENNY	0	\odot	B	5	60	0	X	4	
0001	Carbo	n monaxi	ide (CO)	0.31	ppm			200	0.0044
0002	Nitrog	en mono	xide (NO)	0.00	ppm			200	0.0045
0003	Sulfur	dioxide (SO2)	0.00	ppm		6	50	0.0054
0004	Hydro	gen cyani	ide (HCN)	0.00	ppm			50	0.0011
0005	Hydro	gen fluori	ide (HF)	0.00	ppm			50	0.0006
0006	Hydro	gen chlor	ide (HCl)	0.00	ppm			50	0.0006
9007	Ammo	onia (NH3	3)	0.00	ppm			50	0.0053
8000	Metha	ne (CH4)	1	1.79	ppm			100	0.0009
9009	Carbo	n dioxide	(CO2)	412.00	ppm			2000	0.0044
0010	Water	vapor		1.49	vol-%			3	0.0009
		mortatu	re	37.31	С		11	70	0.0000

Background measurement

1. Connect 5.0 purity nitrogen (N_2) gas to **Zero gas** inlet on the analyzer front panel. Depending on the regulator for the zero gas bottle following flush times are recommended.

2. Flush Time setting (Menu \rightarrow Measuring Times)

When (N_2) gas flow is 1 - 3 l/min set Flush time = 120 (secs)

3. Click Background



The GT5000 will automatically proceed to the perform background. Time clock will show Flush Time then count down the preset 3 mins background time. At completion of background a new screen as shown next page will be displayed.

Immediately Turn off Nitrogen zero gas.





et un trave	0
Flush time:	0
Pump time:	Continuous ~
Sampling time:	20 seconds
Measuring interval:	0
Backgrou	und Measurement
Flush time:	120
Measuring time:	3 minutes

CHECKING BACKGROUND

Check these two parameters :

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- 1). Max value _ Pass if reading > 40,000
- 2). Y-intercept _ Pass if reading > 10,000

Contact Gasmet or your representative if there is a Fail for either above parameters.



3). The CO2 band should not reach the x-axis. (refer line 3.above)

If this fails _ Repeat Background but first check following : a. Is (N₂) gas turned on & contain pressure ? b. Is (N₂) gas connected to GT5000 zero gas connector ?

This message is displayed if background successful









- 1. Connect the sampling line with probe to the **Sample IN** port on the analyzer front panel.
- 2. Start a continuous measurement started by clicking 🚺
- 3. Continuous measurement starts, countdown clock appears counting from down from 20s .
- 4. At completion of 20s the gas readings or Analysis Results will be updated for all gases. Example :





By clicking or One single measurement where the <u>pump is not activated</u> will be taken. Used in special sampling situations.



Interpreting Analysis Results (1)

🍃 Calcr	met - [Anal	lysis Results	- Hazmat_Ide	ntify_Unknow	ms_Applica	ation_SN413	43.CLI	- [- X
			BACKGROUND	5 So SINGLE	60 60s SINGLE		X STOP	SPECT	
0001	Carbo	n monoxi	de (CO)	0.31	ppm			200	0.0044
0002	Nitrog	en mono	xide (NO)	0.00	ppm			200	0.0045
0003	Sulfur	dioxide (SO2)	0.00	ppm			50	0.0054
0004	Hydrog	gen cyani	ide (HCN)	0.00	ppm			50	0.0011
0005	Hydrog	gen fluori	de (HF)	0.00	ppm			50	0.0006
0006	Hydro	gen chlor	ide (HCl)	0.00	ppm			50	0.0006
0007	Ammo	onia (NH3	3)	0.00	ppm			50	0.0053
8000	Metha	ne (CH4)		1.79	ppm			100	0.0009
0009	Carbo	n dioxide	(CO2)	412.00	ppm			2000	0.0044
0010	Water	vapor		1.49	vol-%			3	0.0009
3003	Cell te	emperatu	re	37.31	С			70	0.0000
seg 🌒	smet				ОК				Ξ

ALL-CLEAR

Calcmet Software is reporting air sample is normal, no toxic gases have been detected .

What is normal for ambient air ?

- 1. Carbon Dioxide : 400+ ppm (indoors can range 500 1000 ppm)
- **2. Methane**: ~ 2 ppm
- 3. Water Vapor : 0.5 3 v/v% depending on ambient temperatures
- 4. Other gases should be \sim 0 ppm

Over 5,000 gases are detectible by the GT5000. Refer final page for gases not detected by the GT5000 gas analyzer



Interpreting Analysis Results (2)

>	₽	⇐	\mathbf{X}	0	60	5	B	\otimes	E (i)	Ξ
2	0.0042	200			ppm	5.39	de (CO)	on monoxi	1 Carb	0001
7	0.0047	200			ppm	7.39	kide (NO)	gen mono	2 Nitro	0002
re re	0.2051	50			ppm	38.38	SO2)	r dioxide (3 Sulfu	0003
⁸ ar	0.0028	50			ppm	0.00	de (HCN)	ogen cyani	4 Hydr	0004
1	0.0011	50			ppm	0.00	de (HF)	ogen fluori	5 Hydr	0005
7 🔍 🔪	0.0477	50			ppm	0.00	ide (HCl)	ogen chlor	6 Hydr	0006
0	0.1780	50	i		ppm	7.28)	nonia (NH3	7 Amn	0007
6	0.2406	100			ppm	56.34		ane (CH4)	8 Meth	8000
4	0.0044	2000			ppm	899.02	(CO2)	on dioxide	9 Carb	0009
5	0.0015	3			vol-%	0.93		er vapor	0 Wate	0010
n G	0.0000	70			С	36.44	re	emperatu	3 Cell	3003

Unknown Gas

Calcmet Easy Software is reporting air sample is not normal and one or more toxic gases *have been detected*.

Residual Column turns from Green to Yellow or Red for one or more gases AND ALARM Condition

Identify the Unknown Gas (or Vapor)



IDENTIFY function automatically searches Gasmet reference library (> 400 gases) and reports gas or gases it identifies with gas concentrations.

The NIST/EPA library (with >5,000 gases) can also be searched if activated. [Refer Appendix 8]

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To Add Identified gases into the Hazmat Library Part 1.

1. Re-Load Hazmat Application



i. Browse \rightarrow C:\Identification Tool_SNxxxx ii. Open Folder, locate Hazmat.CLIB iii. Hazmat Application will load on Tablet. (10 gases)

(x=serial number of GT5000)

2. Move from Calcmet EASY to EXPERT



Calcmet EXPERT Screen view

Identified Gas(es) must be found in Gasmet Reference library to add it to HAZMAT application library. It is not possible to gases found in NIST Library to the Hazmat library





To Add Identified gases into the Hazmat Library Part 2

Add identified gas to HAZMAT Application Library





Return to Calcmet EASY

Locate **EASY** on Icon tray

MENU					
Ch	Component	Concentration	Unit	Range	Residual
0001	Carbon monoxide	0.00	ppm	200	0.0042
0002	Nitrogen monoxi	1.61	ppm	200	0.0042
0003	Sulfur dioxide	0.00	ppm	50	0.0043
0004	Hydrogen cyanide	0.00	ppm	50	0.0009
0005	Hydrogen fluoride	0.00	ppm	50	0.0004
0006	Hydrogen chloride	0.00	ppm	50	0.0007
0007	Ammonia	0.00	ppm	50	0.0012
8000	Methane	3.02	ppm	100	0.0033
0009	Carbon dioxide	607.40	ppm	2000	0.0045
0010	Water vapor	1.38	vol-%	3	0.0008
0017	Toluene	0.48	ppm	200	0.0031

Calcmet EASY Screen view

HAZMAT Application now includes identified gas (Example – Toluene)

Refer Appendix 9 for creating new Application Libraries



QOSMET > Know what's in the air.

Shutting Down – GT5000

It is very important to flush the gas cell after the completion of the sampling event resident corrosive gases from adversely effecting the gas cell mirrors.

Step 1: Take GT5000 to a location with Clean Ambient Air.

Step 2: Measure continuously this clean ambient air for at least 3 – 5 mins.

Step 3: Exit it from Calcmet Software

Calcmet Software will display following "friendly reminder message" (assuming Step2 is completed) , chose **Ignore**

Step 4: Remove Sample Lines from GT5000 and return Rubber Dust Cover onto sampling ports









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Tips when Measuring (1)

- Typical warm up time is 15 30 mins. when cell temperature stabilizes
- Hardware status can be checked to see when cell temperature has stabilized
- The response time of the instrument is typically between 45 and 120 seconds depending on the gas measurement time
- When you start measurement at a new sample point, let the analyzer run for minimum of 1 – 3 minutes so that the gas sample is representative
- The internal volume of the sample cell is ~ 500 ml
- The internal pump operates at ~ 2 lpm

Gasmet > Know what's in the air.



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Tips when Measuring (2)

- **NEVER** let water droplet and other liquids enter the sampling cell.
- Always have the sample probe attached
- The handheld probe includes a PTFE filter, periodically checked and replace if necessary.
- If the sample gas is warmer than the sample cell, ensure that moisture in the sample does not condense inside the analyzer when the gas cools down.
- Allow the analyzer to warm to ambient temperature when moving from cool to warm.
- Use Hardware status to view cell temperature to verify the GT5000 is ready to use..



Troubleshooting Communication Issues

Tablet displays Error Code 121 Cannot Open Com Port

1. Check GT5000 Control Switch set to Bluetooth (refer page 5 of this guide)

2. Press Hardware Status – If Status Table displayed, communication is successful Recommend trying this step several times to check if loss of communication is temporary

3. Exit Calcmet software on Tablet and Restart Calcmet Software. (Calcmet automatically pairs with the GT5000 at start-up. After Calcmet re-starts try step # 2 above.)

4. Reload the Application Library on Tablet

 unset

 Select Application

 Edit Application

 Load Spectrum

 Save Spectrum

 Configuration

 Measuring Times

 Autosaving

 Support Package

 Help

 Calcmet Expert

i.Browse \rightarrow C:\Identification Tool_SNxxxx ii. Open Folder, locate Hazmat.CLIB iii. Application will load on Tablet.

(x=serial number of GT5000)

(After reloading Application Library re-try step # 2 above)



Adjusting Measurement Time

Select Application		Configuration settings ×
Edit Application	Configuration settings	Measuring Times
Load Spectrum	Measuring Times	Flush time: 0
Save Spectrum	Pump time: Continuous	Pump time: Continuous
Configuration	Sampling time: Timinute	Sampling time: 20.seconds ~
Measuring Times	Measuring interval: 5 seconds 20 seconds Backgrout minute	Measuring interval: 0
Autosaving	Flush time: 3 minutes 5 minutes	Background Measurement
දිදු ⁰ Analyzer Setup	Measuring time: 3 minutes	Flush time: 120
Support Package	OK Cancel	Measuring time: 3 minutes
(?) Help		
Calcmet Expert		OK Cancel

There maybe occasions when the measuring (Called sampling time in software) should be changed from the default of 20 seconds. The 3 common measurement time settings are 5s, 20s & 60s. 60s is recommended when seeking lowest detection levels and leaving the GT5000 stationary for longer term monitoring. 5s is recommended if the GT5000 is being used for leak detection.



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Saving Data – Calcmet Easy Settings



Check that Saving is activated per check marks in the box as shown

Note saving location for the files that are stored These include : 1.Text File 2. Spectra File 3. Background File 4. Log File

C:\SN26816 will change according to the serial number of your GT5000





Appendix 4.

Appendix 5

Saved Data (1) – Results File

All measured samples will be stored as a text file.

Location of saved files is C:\SNxxxxx\CalcmetResults\Date (Date = when measurements taken)

Text file can be imported into EXCEL® using import wizard.

Date	-	Time	-	SpectrumFile	 LibraryFile 	-	Water 💌	Unit 💌	Residua 💌	Carbon 💌 U	r 🝸 Residu 🕇	Met 🕶 Ur	- Resic	Nitre 🔽 U	n 🝸 Resic	🝸 Carbon 🝸 Uni 🝸
2020)-05-01	9:27:39 F	М	C:\SN26816\Calcr	m∈GAS-LIB-402	_SN26816_	0.4 4	vol-%	0.0004	834.57 pp	om 0.0013	3 1.58 ppr	n 0.0014	0.23 p	om 0.001	.3 1.89 ppm
2020)-05-01	9:28:58 F	М	C:\SN26816\Calcr	me GAS-LIB-402	_SN26816_	c 0.8	vol-%	0.0005	760.07 pp	om 0.0012	2 1.66 ppr	n 0.0015	5 0.18 p	om 0.000	9 1.8 ppm
2020)-05-01	9:29:20 F	М	C:\SN26816\Calcr	m€ GAS-LIB-402	_SN26816_	1.06	vol-%	0.0005	705.12 pp	om 0.0013	3 1.26 ppr	n 0.0017	7 0.25 p	om 0.00	1.61 ppm
2020)-05-01	9:29:41 F	М	C:\SN26816\Calcr	me GAS-LIB-402	_SN26816_	1.09	vol-%	0.0006	704.13 pp	om 0.0013	3 1.28 ppr	n 0.0018	3 0.25 p	om 0.001	.1 1.48 ppm
2020)-05-01	9:30:03 F	М	C:\SN26816\Calcr	m€ GAS-LIB-402	_SN26816_	: 1.1	vol-%	0.0005	709.55 pp	om 0.0013	3 1.49 ppr	n 0.0017	7 0.26 p	om 0.001	.1 1.51 ppm
2020)-05-01	9:30:25 F	М	C:\SN26816\Calcr	me GAS-LIB-402	_SN26816_	: 1.1	vol-%	0.0006	712.02 pp	om 0.0013	3 1.49 ppr	n 0.0018	3 0.26 p	om 0.001	.1 1.51 ppm
2020)-05-01	9:31:16 F	М	C:\SN26816\Calcr	m€ GAS-LIB-402	_SN26816_	: 1.1	vol-%	0.0005	711.24 pp	om 0.0012	2 1.31 ppr	n 0.0017	7 0.26 p	om 0.001	.1 1.54 ppm
2020)-05-01	9:31:37 F	М	C:\SN26816\Calcr	me GAS-LIB-402	_SN26816_	: 1.1	vol-%	0.0006	701.64 pp	om 0.0013	3 1.46 ppr	n 0.0018	3 0.26 p	om 0.001	.1 1.5 ppm
2020)-05-01	9:31:59 F	М	C:\SN26816\Calcr	m€ GAS-LIB-402	_SN26816_	: 1.1	vol-%	0.0006	696.42 pp	om 0.0011	1.45 ppr	n 0.0017	7 0.26 p	om 0.001	.1 1.54 ppm
2020)-05-01	9:32:21 F	М	C:\SN26816\Calcr	me GAS-LIB-402	_SN26816_	: 1.1	vol-%	0.0007	700.85 pp	om 0.0013	3 1.49 ppr	n 0.0018	3 0.25 p	om 0.001	.1 1.48 ppm
2020)-05-01	9:32:42 F	М	C:\SN26816\Calcr	m∈GAS-LIB-402	_SN26816_	: 1.1	vol-%	0.0006	705.73 pp	om 0.0012	2 1.29 ppr	n 0.0018	3 0.26 p	om 0.001	.1 1.56 ppm

C:\SNXXXXX will change according to the serial number of your GT5000





Saved Data (2) – Calcmet Sample Spectra

It may be necessary to re-analyze measured test samples

Location of saved sample spectra files is C:\SNxxxxx\CalcmetSamples\Date (sub-Folder when

measurements taken)

These files can be Opened in Calcmet Software Advanced Mode



selects all spectra in the folder.

Re-analyzing the spectra can be used to further verify the results or using the **IDENTIFY** function on another test sample.

Appendix 6

Calcmet will automatically re-analyze all the spectra selected and show the Trend View for all samples. Note : the last sample is shown when processing finishes. Click on the trend view for Calcmet to load a specific sample spectra.

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Using the Trend Graph

Component

Methane

Sevoflurane

Desflurane

Isoflurane

Halothane

Enflurane

Ammonia

Ethanol

Acetone

Toluene

Pressure

Cell temperature

Isopropanol

Hydrogen peroxide

o-Phthaldehyde (O.

Methylmethacrylate

0.00

0.02

0.05

0.09

0.86

1.06

0.12

0.00

0.00

1004.90

36.08

20:05:00

ppm

ppm

ppm

ppm

ppm

ppm

ppm

ppm

mbai

50

10

50

50

50

50

50

50

1150

70

0.0011

0.0002

0.0005

0.0003

0.0013

0.0013

0.0013

0.0012

0.0013

0.0000

0.0000

20:10:00

Ethyle

Water vapor

of range

100 9

90

0 %

70 %-

60 %

50 %

20 %

10%

0%

20:00:00

22

3001

3003

Trend View (19:37:08, 2.16) C:\...GT5000 Demo\SN26816\20191210\SAMPLE_00041.SPEX Concentr., Unit Range Residual 1.24 vol-% 0.0013 Carbon dioxide 589,63 ppm 0.0014 pom Nitrous oxide 0.59 0.0014 ppm Carbon monoxide 0.00 100 0.0007 ppm 0.04 50 0.0005 0.02 50 0.0005 50 0.0006 ppn 0.13 ppm 50 0.0005 50 0.0004 0.00 ppm 50 ie oxide 0.0009 0.17 ppm 50 0.0001 0.00 ppm Glutaraldehyde 0.00 20 0.0001 ppm

20:15:00

- Up to 15 Components can • be plotted on the Trend Graph
- Click on **Ch** column and a color will appear for this gas on the Trend Graph
- The 100% Y-axis = gas • measurement range.

Example :

🍫 qasmet

- Red gas = Methane
- 100% = 50 ppm
- Black component (always 1st gas clicked) shows time & gas concentration.

Appendix 6.

20:20:00

Tips if Calcmet does not IDENTIFY any gases - 1 Appendix 7

A. Visual inspection of Spectra



Identify function will not find any Unknown gases and it is to be interpreted as a Clean Sample (refer limitations statement on last page)



Visual inspection of spectra shows peaks not normal in clean ambient air indicating there is one or more Unknown gases present. Run IDENTIFY function - If no gases found refer next page.



Tips if Calcmet does not IDENTIFY any gases - 2

B. Calcmet Identification Tool Settings



All Identification settings must be accessed in Calcmet EXPERT software (refer slide#16 to move from Calcmet EASY \rightarrow EXPERT)

Suggestions if no gases identified :

1. Change "Limit HQI <" value to 60.00 and re-run the IDENTIFY function.

2. Uncheck "<u>do not search in NIST Library</u>" and re-run the IDENTIFY function.

3. Measure another sample or Open previously taken sample and re-run the IDENTIFY function.

If no success with identifying the Unknown it is possible that this component(s) is not in the reference library. Suggest contact Gasmet or local representative.

Perform identification on:	~		
(Sample Spectrum	ORe	sidual S	pectrum
Identification Method			
Residual of CLS	OPe	ak Matc	h
Included areas			
Area 1 from wavenumber	890	to	1350
Area 2 from wavenumber	2000	to	2223
Area 3 from wavenumber	2500	to	3400
Area 4 from wavenumber	4000	to	4200
Exclusion by Nt Quality Index (H	Q1)		
Limit HQ	1 < 85.00	0	%
Other settings			-
Do not search in NIST libra	iry	•	
Eilter results with false abs	constion no	ake	

Creating new Application Libraries

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Gasmet recommends that the Hazmat Application Library be kept with the 10 original gases only.

To create new application libraries, (must be in Calcmet EXPERT Mode) – Referencing Slide #17, Use the follow steps to add and remove gases in the new application library :

- 1. Water Vapor, Carbon Dioxide, Methane and Carbon Monoxide must always be in the application.
- 2. Add the target gas or gases and any known other gases that maybe present in the sample such as solvents.
- 3. Remove any other gases from the application library that are not required.
- 4. Save New application : In Calcmet Expert : Options \rightarrow Application \rightarrow Create New Toluene_Application

Using the example of Toluene gas from slide #17 AND adding Ethanol & Isopropanol as known solvents used in the sampling area AND removing Gases NO, SO2, NCN, HCl & HF as not deemed present in the sampling area .

Note _ When choosing an Application Name - Spaces are not allowed, use an underscore for multiple word application library names

🍃 Calcr	net - [Analysis Result - HAZMAT]	N50255_c14_133_Re	v1.CLIB: 2023-00	3-15 15:52:50]		Galcmet - [Analysis Results Toluene_Application_LIB: 2023-08-15 15:52:50]						
MONU										<u>(</u>)	\otimes	
Ch	Component	Concentration	Unit	Range	Residual	Ch	Component	Concentration	Unit	Ranne	Residual	
0001	Carbon monoxide CO	0.00	ppm	200	0.0000	0001	Configuration	0.00	Unit.	nange	0.0000	
0002	Nitrogen monoxide NO	0.00	ppm	200	0.0000	0001	Carbon monoxide CO	0.00	ppm	200	0.0000	
0003	Sulfur dioxide SO2	0.00	ppm	50	0.0000	0007	Ammonia NH3	0.00	ppm	50	0.0000	
0004	Hydrogen cyanide HCN	0.00	ppm	50	0.0000	0008	Methane CH4	0.00	ppm	100	0.0000	
0005	Hydrogen fluoride HF	0.00	ppm	50	0.0000	0009	Carbon dioxide CO2	0.00	ppm	2000	0.0000	
0006	Hydrogen chloride HCI	0.00	ppm	50	0.0000	0010	Water vapor H20	0.00	vol-%	3	0.0000	
0007	Ammonia NH3	0.00	ppm	50	0.0000	0015	Taluana	0.00		000	0.0000	
0008	Methane CH4	0.00	ppm	100	0.0000	0015	Toluene	0.00	ppm	200	0.0000	
0009	Carbon dioxide CO2	0.00	ppm	2000	0.0000	0051	Ethanol	0.00	ppm	100	0.0000	
0010	Water vapor H2O	0.00	vol-%	3	0.0000	0052	Isopropanol	0.00	ppm	200	0.0000	

5. Press OK to create the new application library. After 10 – 15 seconds the name of the application library will change from the original name "Hazmat" to new name "Toluene_Application"

(This is now a new permanent application library located in C:\Identification Tool_SNxxxxx Folder)

About this document

The objective of this guide is to provide GT5000 Terra users a quick reference guide to get them familiar with the basic operation. It must be empathized that this guide does not replace the Model GT5000 Terra Operations manual or the Calcmet[™] software manual that was supplied with the gas analyzer.

The steps outlined in this guide focuses on the Hazmat or Identification of Unknown(s) application where First Responders or Safety personnel encounter a mystery smell, odor, unlabelled container or chemical spill and need to identify the "Unknown" component.

When using the GT5000 Terra to accurately quantify identified gases, it is strongly encouraged that additional quality control steps be initiated to verify further support the gas analysis readings. These steps can be reviewed in the manual(s) or further discussion with your local Gasmet office or local representative.

To continued improvement and support of the Gasmet portable FTIR gas analyzer users we invite your feedback on this document and/or other Gasmet related matters.

The FTIR gas measurement technology measures an extensive number of gases and vapors. However the following gases are not measured by the GT5000 - Nitrogen, Oxygen, Chlorine, Bromine, Fluorine, Neon, Helium, Argon, Krypton, Xenon, Radon, Mercury and H₂S (Hydrogen Sulfide)



