

OSS PROCESS DESCRIPTION FOR OIL IN ANHYDROUS AMMONIA:

1)	Turn on FTIR instrument and computer – (if needed)	
2)	Wait until blue light on FTIR on the front left of the Thermo iS5 is not blinking (this means the FTIR is warmed up)	
3)	Put in OSS FTIR Signal Alignment Card to check that FTIR signal is aligned properly – after a few seconds FTIR signal will ‘light-up’ the card – adjust the height of the card using the adjustment screw on the FTIR transmission cell card holder platform.	
4)	Start ‘OMNIC’ software by double clicking the icon – click ‘OK’ on the pop-up window that recognizes the transmission base holder component.	
5)	Make the screen full size if desired	
6)	Under the OMNIC ‘File’ click ‘Open Configuration’ – then open ‘OSS_OIL_IN_AA_CONFIG’ file	
7)	Under the OMNIC ‘Collect’ tab - choose the ‘OIL_IN_AA’ macro	
8)	Follow the macro instructions:	
	a. Suggested Procedure	
	i. Use OSS Calibration Standard ‘CSD 0’ or ‘Blank’ as the background device (should look like a ski jump). 64 scans.	
	ii. Keep the same ‘CSD 0’ in the FTIR – and run this as a sample – should look flat this time and give a low (< < 1ppm) result for this	
	iii. Select ‘yes’ to run another sample	
	iv. Put in OSS CSD 1 device to run it as a sample – it should provide a result within 10% of the value provided with the device.	
	v. OPTIONAL Put in OSS CSD 2 device to run it as a sample – it should provide a result within 10% of the value provided with the device.	
	vi. At this point the FTIR instrument is all set and will be ready to process real samples	
	vii. SAMPLING AND PROCESSING SAMPLES: Process 10 ml of AA through the extractors - Mark each extractor in order to keep track of them)	
STEP	WHERE	PROCESS
1	IN THE PLANT PROCESS - OUT IN THE FIELD	Using appropriate collection procedures, PPE and clean AA sample container(s) - collect a representative sample to be tested. (e.g. 500 ml - 1L sample)
2	IN THE PLANT PROCESS - OUT IN THE FIELD	Using appropriate procedures and equipment transfer the sample to the laboratory hood for processing. (NOTE OSS HAS IN PLANT SAMPLING AND PROCESSING PRODUCTS TO PERFORM SAMPLING AND EXTRACTION IN THE PLANT - CONTACT US FOR MORE INFORMATION)
3	IN THE LABORATORY HOOD	Pour 250-300 ml of the sample into a clean glass beaker
4	IN THE LABORATORY HOOD	Using an OSS small sampling wand and attached OSS custom oil in AA syringe, prepare the syringe sample:
	a	Submerge the syringe deep (e.g. close to the tip of the wand) into the AA sample at an angle of ~ 45 degrees or so allowing the syringe to acclimate to the temperature of the AA sample
	b	Fully fill (e.g. to the 12ml level) and fully purge the syringe a few times (e.g. 5 times or so) to cool down the syringe and eliminate bubbles.
	c	Once the syringe is sufficiently cooled and the air bubbles have been eliminated - fill the syringe one last time to the 12ml mark with AA sample.
	d	Now tip the OSS wand/syringe system vertically upward so that the syringe tip is pointed upward. Then using the sampling wand slowly push out any air bubble(s) that may be present.
	e	Now place the OSS wand/syringe system ~ horizontally with the tip of the syringe over a waste container. Push the syringe plunger to the 10 ml mark.
	f	Attach an OSS Oil in AA ClearShot extractor onto the OSS wand/syringe system.
	g	Using the OSS wand/syringe system at ~ 45 degree angle, push all the 10ml of AA sample from the syringe through the extractor and into the waste container - do this at a rate of ~ 1ml/second making sure there is always positive pressure of sample through the device.
	h	Now place the OSS wand/syringe system vertically (downward) with the syringe tip pointed down. Remove the OSS oil in AA extractor keeping the inlet upward at all times to avoid any AA sample still in the headspace from spilling. Then fully fill the syringe with air (~12 ml). Keeping the extractor upright, reattach the OSS oil in AA extractor and quickly push the air through the OSS oil in AA extractor to push any remaining AA through the extractor.
	viii. (OPTIONAL IF YOU HAVE OBSERVED THAT WATER PEAKS HAVE BEEN PRESENT DURING PREVIOUS ANALYSES) Back at the FTIR – flush with air a couple more time to help make sure the water is out of the way when you process the device (this shows up as a broad hump around 3400 on the x-axis).	
	ix. Continue with the macro to process the samples. (Use the spectra preview window (the window shows ‘scan 1 / 1’) to observe the spectra and to make sure the water is gone - water shows up as a broad hump around 3400 wavenumbers). If water is not yet gone, keep the macro in the preview mode, take out device, flush the extractor with more air using a clean syringe filled with air, reinsert into the card holder and verify water is sufficiently gone. Then hit enter to process the sample (40 scans) and provide the result.	
	x. Record the results into your lab notebook or LIMS used by your site.	
	xi. Save the spectra as desired (‘File / Save As’) to a designated folder - the spectra can be saved in OMNIC for use at a later time if needed (e.g. an audit).	
	b. Repeat sample processing for any number of samples gathered	