SAMPLING CHECKLIST



Thank you for trusting SDMyers with your testing needs! As you get your samples and prepare for shipping, please follow this guide to ensure samples are high quality, easily identifiable, and all required information is provided so that you can get the best possible diagnostic information.

Failure to provide All Required Information will result in delays to your order!!

Please Follow This Checklist for your Order:

- 1.
 Provide your PO Number, or note alternative form of payment: ______
 Payment information is required for processing any samples.
- 2. Contact your SDMyers contact if this is a Rush Order at 330.630.7000.
- 3. Complete the Liquid Testing Order Form
- 4.
 □ Print Sampling Forms and fill out for all Assets being Tested
 - a. Use pre-populated forms from Transformer Dashboard: Make it easy on yourself: Download pre-populated forms for your equipment and save time!
 Log in at SDMyers.com Sampling Forms Select Equipment Sampling Form Packet
 - b. Blank forms are available in your Sampling Packet for New Assets from the same location (choose Blank Form Packet to download).
- 5.
 □ Follow the Liquid Sampling Instructions in this packet for all samples
 - a. Sampling should not be performed during rainy weather to ensure analysis accuracy.
 - b. Fill Out "Sampling & Inspection Form" (Formerly Field Copy Report) for All Assets!
 - i. <u>MINIMUM REQUIRED INFO</u> (ORDER WILL BE DELAYED IF NOT PROVIDED):
 - Serial#, Sample & Top Temperature (°C), Liquid Type, Equipment Type
 - ii. Fill out the form completely to ensure the most accurate diagnostics
- 6.
 □ Prepare your Samples before Packing and Shipping:
 - a. Ensure All Containers are Fully Filled and Securely Closed
 - b. Ensure All Containers are Labeled, and Syringe Cards are filled out as applicable
 i. Required: Serial# or TC# if available
- 7.
 □ Package according to Packing Instructions
- 8.
 Ship your Samples to the Lab
 - a. US Orders -- Attention: LAB, SDMyers, 180 South Ave, Tallmadge OH 44278
 - i. <u>Important:</u> DOT / EPA Regulations require special packaging, labeling, and shipping for chlorinated dielectric liquids (e.g. PCB, Askarel, Wecosol). Contact your SDMyers account representative for assistance.
 - International Orders -- Testmark Laboratories 6820 Kitimat Road, Unit #4 Mississauga, ON L5N 5M3, Canada // Phone: 905.821.1112
 - i. Declare customs value of Less Than \$15 USD on your documentation.
 - ii. Additional international shipping instructions are available from SDMyers.com in the Resources section under Sampling and Shipping Forms.

LIQUID TESTING ORDER FORM

SDMyers.

COMPANY NAME		CUSTOMER #		
CONTACT PERSON		PHONE		
ADDRESS				
СІТҮ		STATE	ZIP	
SAMPLE DATE P. O. NUMBER				



NO. QT	TEST NAME	TEST DESCRIPTION		REQUI 12 oz			INERS 16 oz
1000	CriticalPac	Critical transformers		1	1	1	-
001	PowerPac1	Non-critical transform	mers, baseline	1	1	1	-
1002	PowerPac2	Non-critical transform	mers, ongoing	1	1	1	-
003	DistributionPac	Distribution-class tra	insformers	1	1	1	-
004	LTCPac	LTC testing without I	LTC testing without PC/FC		1	1	-
012	LTC Complete	Load Tap Changers	Load Tap Changers		1	1	-
005	RegPac—Single	Regulators < 500 gal	Regulators < 500 gallons		1	1	-
006	RegPac—Three	Regulators > 500 gal	Regulators > 500 gallons		1	1	-
007	RegPac—Step	Step-voltage regulators		1	1	1	-
008	OCBPac	Oil Circuit Breakers		1	1	1	-
009	SwitchPac	Switchgear		1	1	1	-
051	SilPac	Silicone	Silicone		1	1	-
060	SilPac Plus	SilPac with furanic co	SilPac with furanic compounds		1	1	-
010	S-FluidPac	FR3, Biotemp, ENV-200, Midel, Alpha 1		1	1	1	-
063	Natural Ester Pac	Natural ester critical transformers		1	1	1	-
064	FR3 Pac Plus	New transformers with FR3 1 1 1		-			
052	AskPac	Askarel package	Hazmat: These liquids require special han		dling.		
058	WecPac	Wecosol/Perclene	Please refer to DOT for complete instruc		ctions.		

NOTE: EACH TEST BELOW REQUIRES THE FOLLOWING ADDITIONAL CONTAINERS.

4041	Liquid Screen (LS)	7 tests of basic fluid quality	1	-	-	-
4042	Dissolved Gas Analysis (DGA)	Measures dissolved gas content	-	-	1	-
4043	Karl Fischer (KF)	Measures moisture content	-	1	-	-
4046	Dissolved Metals (ICP)	Copper, iron, aluminum	1	-	-	-
4047	Inhibitor Content (INH)	Oxidation inhibitor	-	-	1	-
4050	Furans Analysis (FUR)	Paper degradation compounds	-	1	-	-
4054	Liquid Power Factor (LPF)	Measures dielectric losses	1	-	-	-
4067	D1816 Dielectric	Dielectric breakdown voltage	-	-	-	1
4044	PCB—Fluid	Regulatory compliance	1	-	-	-
4048	PCB—Solid	Regulatory compliance	1	-	-	-
4049	PCB-Wipe	Regulatory compliance	1	-	-	-
4025	Corrosive Sulfur	Determines presence or absence	1	-	-	-
4066	PC/FC	Particle count/filming compounds	1	-	-	-
4081	Particle Count	Determines size and number	1	-	-	-
					••••••	•••••

IMPORTANT!

Use **only** the containers we provide.

Remove desiccant tablet before filling.
 Fill all containers completely to the pack

Fill all containers **completely** to the neck.

WARNING: All non-compliant samples will be rejected.

LIQUID SAMPLING INSTRUCTIONS

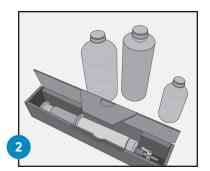
SDMyers.

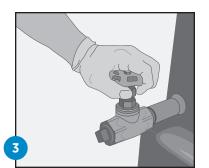
These instructions are intended to provide some basic guidance on drawing your own transformer liquid samples. They assume the reader is familiar with high-voltage transformers, the risks and liabilities involved in working with and/or around energized electrical equipment, the required safety procedures and PPE, regulations including those from OSHA, NESC, and other state and local regulators. **Safety is the number one priority.**

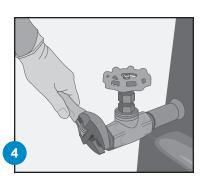
This information is provided for guidance only. SDMyers assumes no responsibility or liability for any use or misuse of this information. Contact SDMyers at 330.630.7000 with any questions, or consult a qualified electrical technician.

SDMyers provides required sampling containers. Failure to provide liquid samples only in these SDMyers-approved containers may result in the Company's refusal to process your order. Thank you for your understanding and cooperation!

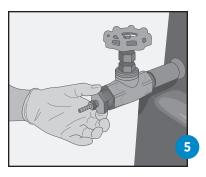


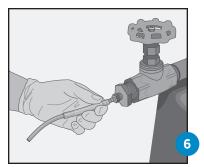


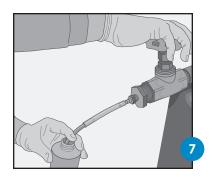


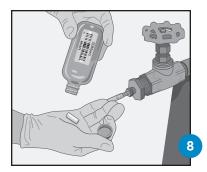


- Prepare the **tools and supplies** required to complete each step of the liquid sampling process.
- 2 Make sure you have the **proper sampling containers** for the tests your are ordering. Please refer to the order form for details.
- Verify that **the valve is shut off** before removing the front plug.
- **Remove the front plug** and inspect for debris. Wipe the inside of the valve fitting with a clean cloth.
- Affix the tubing reducer to the inside of the clean valve fitting. Tighten with moderate torque.
- 6 Flush the valve as follows: 50 oz. for a 1" valve. 60 oz. for a 2" valve. (Tubing here is optional.)
 - **Fill the plastic bottle** 2/3 full. Shake the bottle. Discard the liquid. Fill the bottle to the neck and secure the cap tightly.
 - Remove and discard the desiccant tablet from the glass bottle. (This is an *extremely important* step.)





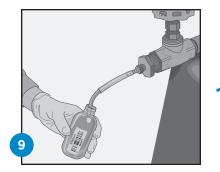


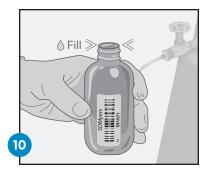


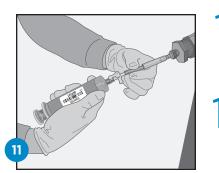
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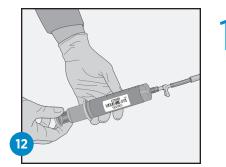


Failure to provide liquid samples only in SDMyers-approved containers may result in the Company's refusal to process your order. If you have any questions, please contact us at 330.630.7000. Thank you!

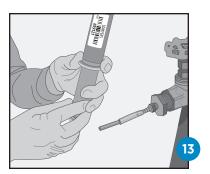


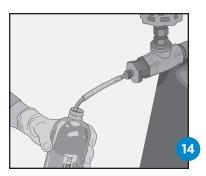


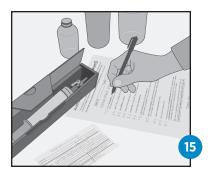




- **Fill the small glass bottle** 2/3 full. Shake the bottle. Empty the bottle to discard the liquid.
- Fill the small glass bottle to the very top. Ensure bottle is full to the extreme top of the bottle, and secure the cap very tightly.
- **Evacuate air** from the sampling syringe. Attach the flexible tubing provided inside the syringe box .
- 2 Draw 50 ml of liquid into the sampling syringe and evacuate the syringe. Draw another 50 ml of liquid into the syringe.
- Hold the syringe upright so that air bubbles rise to the stopcock.
 Dispel the bubbles. Reduce the volume in the syringe to 42 ml.
 - Fill the large glass bottle 2/3 full. Shake the bottle. Empty the bottle to discard the liquid. Fill the bottle to the neck. Secure the cap tightly.
- 15 Complete all accompanying paperwork thoroughly and accurately. Proceed to Packing Instructions.





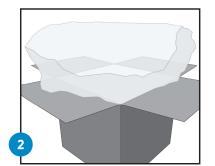


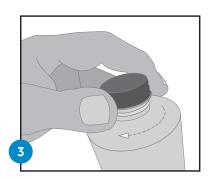
PACKING INSTRUCTIONS

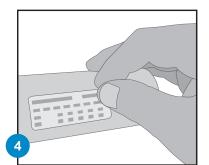


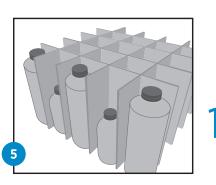
These instructions are provided to make sure your samples will arrive safely to our facility and will be processed successfully. **Improper packing will greatly compromise your samples.** (Unfortunately, we see it all too often.) **If you have any question whatsoever, please contact us at 330.630.7000**. We always welcome your call!









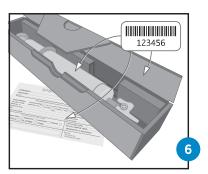


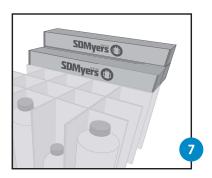
- Use only **approved shipping cartons** provided by SDMyers. These cartons will accommodate a total of 12 sample kits.
- **Use a plastic bag** as a liner for the shipping carton to help contain fluid spills in the event of damage during shipping.
- Be sure to **tighten all bottle caps** securely before loading the bottles into the shipping carton.
- Label each bottle properly so that the samples can be successfully received, identified and processed.
- Place all bottles vertically
 (upright) in the partitioned slots designated for them in the shipping carton.
- 6 Place all syringes in their respective boxes (keeping all bar codes matched up) and position them horizontally across the top of the bottles in the bottom tier.

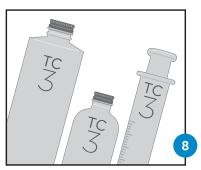
Arrange all bottles and syringes as complete kits (comprised of a 12-oz bottle, a 4-oz bottle, and a syringe) within the shipping carton.

Do not separate the components of the sample kits between different shipping cartons.

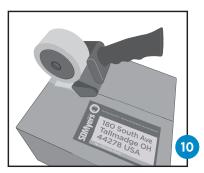
- Include the completed Order Form and Sample Return Checklist inside a sealed ziplock bag and place it on top of the samples inside the shipping carton.
- Secure the shipping carton with clear packing tape and place an adhesive address label on the top surface of the carton.











SDM-PI-1217



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TO II

Highlighted Fields ARE REQUIRED AT MINIMUM.

ILATORS
(Circle/Check Choices Below)
Tests & Packages
CriticalPac SilPac OS(D877) PF Metals
PowerPac 1 SilPac Plus DBPC Furan PCB
PowerPac 2 WecPac Reg-Single Reg-Step Reg-Three
Distribution AskPac Natural Ester Pac S-FluidPac
□ DGA # □ KF (Oil Sample Temp.)°C
(syringe #) (NEEDED FOR % SAT CALCULATION)
Specialty Testing
Particle Count [*] Flash/Fire Point [*] AGE Particle & Filming [*] Viscosity [*] DP
Particle & Filming [*] Viscosity [*] DP Corrosive Sulfur [*] D1816 ^{**} : 2 mm gap 1 mm gap
Resistivity* Other*:
· · · · · · · · · · · · · · · · · · ·
*Additional Plastic Bottle **D1816: 16 oz Glass, per gap tested
Liquid Type
Oil FR 3 Beta Env-200 Silicone Biotemp Alpha-1 Other
Silicone Biotemp Alpha-1 Other R-Temp Luminol Midel
Hazmat Shipping Required for the following Liquid Types:
Askarel / Pyranol Wecosol Perclene
Wemco-NF PCB Contaminated Sample >=450 ppm
Equipment Type
Transformer Cabinet Pop Top Precipitator Rectifier
GSU WGSU WTSU Auto Transf. Reactor
Regulating Transf. Furnace Induction Furnace
Step Volt. Regulator Other:
Location
Outdoor Description Descripti Descripti Description Description D
Ground Ground Hezzanineft. high
Basement Roofft. high
Indoor- Floor # Poleft. high
Additional Equipment
Radiators: Yes No Oil Pumps: Yes No
Fans: Yes No LTC Comp: Yes No
H2O Cooled: Yes No
Bushing Location: Top Side Top Enclosed Side Enclosed
· ·
Valve Extension System:
Servicing Information
Top FPVin. Valve Plug
Bottom FPVin. Valve Plug
Valve Location: HV Side LV Side
Other Access: Bolted Top Explosion Vent
□ Top Inspection Plate □ Pressure Relief Device
Other: Hose Lengthftmeters
Other:
Other: Hose Lengthftmeters
Other: Hose Lengthftmeters Service On Line: Yes No
Other: Hose Lengthftmeters Service On Line: Yes No Power Available: Yes No
Other: Hose Lengthftmeters Service On Line: Yes No Power Available: Yes No Full-vacuum Rating: Yes No



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Highlighted fields ARE REQUIRED AT MINIMUM.

Sampling & Inspection Report - LTC, OCB, SWITCH, and MI						
	(Circle/Check Choices Below)					
Date Technician	Tests & Packages					
	LTC Pac LTC Critical [*] OCB Pac Switch Pac					
Customer Number	Particle & Filming Particle Count*					
	OS(D877) KF Moisture DGA, syringe #					
Customer Name	DBPC PF Furan Metals PCB					
	<u>Specialty Testing</u>					
Sub Name	Corrosive Sulfur [*] Flash/Fire Point [*]					
	Resistivity* Viscosity* Other*:					
Unit No	D1816 ^{**} : 2 mm gap 1 mm gap					
0.1	*Additional Plastic Bottle **D1816: 16 oz Glass, per gap tested					
Other	Liquid Type					
Marrié Data	Oil FR 3 Beta Env-200					
Manuf Manuf. Date	Silicone Biotemp Alpha-1 Hydraulic					
Operation No.	R-Temp Luminol Midel Other					
Serial No	Hazmat Shipping Required for the following Liquid Types:					
Madal Number	Askarel / Pyranol Wecosol Perclene					
Model Number	Wemco-NF PCB Contaminated Sample >=450 ppm					
Tap Changer for TC #	Equipment Type					
Tap Changer for TC #	LTC Arc in Oil LTC Resistor LTC					
Valtana	Transfer/Diverter Compartment Selector Compartment					
Voltage	DETC Motorized DETC Vacuum LTC					
Callana	OCB Switch Reclosure Disconnect Switch					
Gallonsliters	Bushing Drum Stor. Tank DryMax					
Selector Dongo (LTC Only), Lower () Doing ()	Other:					
Selector Range (LTC Only): Lower (-) Raise (+)	<u>Misc</u>					
(usually from -16 to +16)	Silica Gel / Desiccant? Yes No					
(see EXAMPLE lower right)	Vacuum Interruptor? Yes No					
	Top FPV in. Valve Plug					
Visual Inspection / Gauge Readings	Bottom FPVin. Valve Plug COMMENTS:					
Liquid Level: Very Low Low Normal High	COMMENTS:					
Top Liquid Temperature: °C						
Press./Vac Gauge Reading:	EXAMPLE					
Pressure (+) Vacuum (-)	EXAMPLE Selector Range / Existing Sweep Range					
Paint: Good Fair Poor						
Leaks: No Yes	Lower position (-) Raise position (+)					
If Yes, where?						
Existing Sweep Range (LTC Only): fromto						
(see EXAMPLE to the right)	_ 4					
(POSITION NDICATOR					
Tap Counter Reading (LTC & SVR Only):	8					
	R L					
Additional Information:						
	12 Westinghouse 12					
Conservator & Breather: I one of the following combinations:	16 16					
Conservator: No / Breather: Free/Desiccant	Press and a fight					
Conservator: No / Breather: Free						
Conservator: No / Breather: N2 Blanket	Selector Range: Lower (-) <u>16</u> Raise (+) <u>16</u>					
Conservator: Yes / Breather: Free/Desiccant	Existing Sweep Range: from 0 to +14					
Conservator: Yes / Breather: Free	(Do not record the existing hand position.)					
Desiccant Condition: Good Veeds Replaced	rev. 1/13/22					