

MONSANTO COMPANY
ORGANIC CHEMICALS DIVISION
J. F. Queeny Plant

MANUFACTURING OPERATING INSTRUCTIONS

for

MCS-153

(808.02)

Supersedes the Operating Instructions dated July 7, 1964 and all earlier additions.

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	Drawing (1)	

MONS 057370

I. EQUIPMENT LIST

A. S-1228 - Blend Tank

A 1,000 gallon glass-lined reactor with a three blade turbine type agitator. Serviced with 110 lb. steam on the jacket.

II. RAW MATERIALS LIST

A. Aroclor 1242 (81101)

This material is received in 600 lb. net drums from the warehouse and stored on 1st floor, North Section.

B. Aroclor 1232 (82611)

This material is received from the warehouse in 550 lb. drums and stored on the 1st floor, North Section.

C. Tricresyl Phosphate (80180)

This material is received from the warehouse in 530 lb. drums and stored on the 1st floor North Section.

D. FH-139 (809.74)

This material is received from permanent storage and is stored on the 1st floor, North Section, or the yard.

E. Phenyl 1 Naphthylamine (43350)

This material is located in the third floor, "X" Bldg., Chemical Storeroom. It is stored in the second floor lab.

F. Dow Corning Fluid DC-200 (31100)

This material is stored in "W" Bldg., 2nd floor lab.

III. SAFETY PRECAUTIONS

A. Aroclor-1242 (81101)

This material is relatively inert. If it comes in contact with your skin, wash it off with warm water and soap.

Avoid any fumes from this material. Wear rubber gloves when handling this material.

B. Aroclor 1232 (82611)

Treat this material the same as Aroclor 1242.

C. Tricresyl Phosphate (80517)

Treat this material the same as Aroclor 1242.

D. FH-139 (809.74)

Treat this material the same as Aroclor 1242.

E. N-Phenyl-Naphthylamine (43350)

This material is somewhat poisonous and must be kept off the skin. Wear a chemical respirator and rubber gloves when handling it.

F. DC-200 Silicone (31100)

Treat this material the same as Aroclor 1242.

G. MCS-153 (808.02)

Treat this material the same as Aroclor 1242.

IV. SAFETY DEVICES

A. S-1228

1. Equipped with a 6" 20 psi Karbate rupture disc.
2. Equipped with a 2" vent to the roof with Protecto-Seal.

V. INTRODUCTION

The manufacture of MCS-153 is accomplished by blending the specified amounts of the following:

1. Aroclor 1242
2. Aroclor 1232
3. Tricresyl Phosphate
4. FH-139
5. Phenyl 1 Naphthylamine
6. DC No. 200 Silicone

The batch is heated to 60°C. stirred for 2 hours with Decalite, then filtered to drums.

The MCS-153 is a new synthetic lubricant for large natural gas compressors. It is used in connection with jet engines which are mounted on the ground and used to drive these large compressors. This fluid extends the operating temperature range of the compressors and eliminates the need for frequent checking during cold weather operation.

VI. DETAILED INSTRUCTIONSA. Charging the Blender

1. Inspect S-1228 to insure that it is clean and dry.
2. Suck 3600 lbs. of Aroclor 1242 into S-1228 from the top.
3. Suck in 378 lbs. of FH-139 in through the drum loop on top of S-1228. Add exactly 378 lbs. If all will not suck in, heat sealed can in melter for two hours.
4. Suck 1286 lbs. of Aroclor 1232 into S-1228 from the top.
5. Suck in 1000 lbs. of TCP into S-1228 from the top.
6. Suck in 3757 lbs. of Aroclor 1242 into S-1228 from the top. This will bring total Aroclor 1242 charge to 7357 lbs.
7. Vent to atmospheric pressure with CO₂ or N₂.
8. Charge 5.0 lbs. of N-Phenyl 1 Naphthylamine through the handhole into S-1228.
9. Charge 10.0 lbs. of Dicalite through the handhole.
10. Close up S-1228, vent to roof, turn on agitator and heat to 50-60°C. with atmospheric steam on jacket.
11. Hold for 2 hours at 50-60°C. Clean Sparkler Filter on even numbered batches.
12. During the hold period, add 16 ml of Dow Corning CO-200 fluid to each of 17 empty Black Iron 55 gal. drums. Tag drums DC-200 added.

B. Filtering

1. Circulate through the Sparkler filter and the 3 cartridge filter until a clear sample is obtained. Normally, this should take about 1/2 - 1 hour.

2. If the filtering rate is poor, change cartridges before drumming.
3. Have agitator on while circulating and while drumming product.

C. Packaging

1. Take a 1x1 lb. sample after the ACTA cartridges. If clear, send sample to A Lab on a green ticket for:

Specs.

Flash Point	330°F Min.
Viscosity at 100°F	21.5 to 26.2 100°F
and at 210°F	3.10 to 3.70 210°F

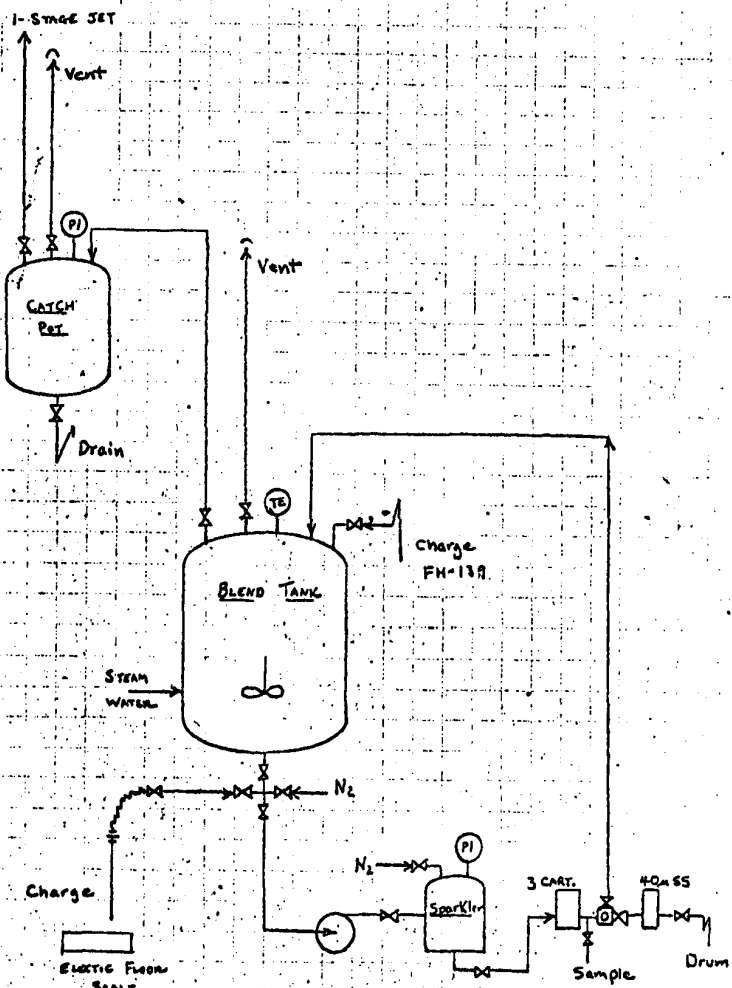
2. Unless specified by Night Sheet, do not wait for the results. Drain 605 lbs. net to black iron 55 gal. drums each containing 16 ml of DC-200 from A-12. Make up part drums with the next batch.
3. Take the following samples by thieving several of the full drums:
2x1 lb. for PR samples.
2x1 lb. for my cabinet reserve. Label batch number, Lot No., Date, MCS-153.
4. Do not put weights on the drums since this is sold by the gallon. Record gallons and pounds in the PR book and both on the PR ticket. Request complete analysis and report foam tendency and stability. Indicate Viscosity and Flash point same as your control number.
5. Label drums MCS-153, 55 gallons, Lot No. _____.
6. Send full drums to central drumming.

VII. EMERGENCY AND DISASTER PROCEDURES

Do the following steps in the order indicated:

1. Shut off heat to S-1228.
2. Turn off agitator.

Upon completion of emergency, resume batch operations at the last point.



80802
Typical Blend S...

KW Wagner 12-1-65