

Ethanolamines/Glycol Ethers In Plant Training (IPT)

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Issue Number :1.3
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Section Test :8

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Loading Familiarization Drumming

Answers:

1. **Physically locate:**
 - A. The ethanolamines drumming line
 - B. The glycol ethers drumming line
 - C. Area safety showers
 - D. Area intercoms
 - E. The sprinkler trip switch
 - F. The emergency exits from the drumming line
 - G. The emergency stop button for the drumming line
 - H. The emergency stop button for the loading pumps
2. **State the flammable, corrosive and combustible products loaded at these drumming stations.**
 - A. FLAMMABLE = PM
 - B. CORROSIVE - MEA
 - C. COMBUSTIBLE - EB - DOMESTIC
 - D. COMBUSTIBLE - DPM
3. **State the safety equipment required to perform the drumming operation.**
Monogoggles, and safety toe boots/shoes.
4. **State what your actions would be if you were sprayed with product.**
Immediately get under a safety shower, push the alarm button, undress and flush eyes until someone arrives to assist.
5. **Explain the procedure you would use to switch from MEA to EB drumming.**
 - A. Blow back the MEA line to DV-250 with nitrogen.
 - B. Drain drumming lance into a five gallon amines rerun bucket.
 - C. Drum one blue EB waste drum.
 - D. Catch a sample on the first EB drum and analyze.

6. **Explain the procedure for disposing of rerun products in drums.**
A. Place PVC fitting in appropriate holes on drum and close the valves.
B. Check level in the appropriate rerun drum.
C. Using the forklift drum roller, raise the drum to be dumped into position over the tank funnel.
D. Open two inch valve to start drum flow. Open 3/4" valve so drum will not be sucked in.
E. Stay with the drum until this operations is complete.
7. **State the color codes for waste drums.**
A. PM = Black
B. EB = Orange
C. Ethanolamines = Green
8. **State what you would do with a drum found on the conveyor with a pin hole in it.**
Stop drumming operation and notify the loading coordinator. Make arrangements to remove the drum from the conveyor quickly and safely. If necessary put duct tape over the hole until it can be removed from the conveyor. Dump the drum as soon as possible to the appropriate waste tank to prevent product from leaking on the floor or into the sump.
9. **State the storage tanks and products they contain that are drummed in the Ethanolamines/Glycol Ethers plant.**
Glycol ethers:
A. PM = DV-125 and DV-145
B. EB = DV-126
C. DPM = DV-136
D. DB = DV-135
E. TPM = DV-146
F. TBH = DV-142 A/B
G. DF 250 = DV-144

Ethanolamines:
A. MEA (non acid) - DV 275 and DV 276
MEA (acid) - DV-250
B. DEA (acid) - DV-260
DEA (non acid) - DV-278
DEA (Monsanto) - DV-277
C. TEA (non acid) DV-265.
TEA (acid) DV-255
No TEA-85 storage
10. **State what the valve positions should be on the drumming headers prior to your leaving the drumming line.**
Valve at header should be manually blocked.
11. **State the three waste holding tanks in the drumming building and what products they hold.**
A. D-245 - Ethanolamines
B. D-199 - PM

- C. D-185 - EB
12. **State how you would fill a low freeze grade product drum on the fuller drum filler.**
A. Set first scale weight for 434 pounds (T99) (product).
B. Set second scale weight for 76 pounds (condensate).
C. Total weight = 510 pounds.
13. **State the steps you would take prior to loading your first drum.**
A. Get order set of drums to be filled.
B. Have labels stamped and top labels called up.
C. Fill out before section of drumming check sheet.
D. Get start reading and start appropriate pump.
E. Check last drummed product to see if waste drum is needed.
F. Hook flex hose up to proper product. Open downstream block valve first and then slowly open upstream block valve to check for leaks. (do not open valves fully until flow is established)
G. Start drumming line.
H. Put proper weight for product into control panel.
I. Change out waste buckets to proper series.
J. Set bung delay.
K. Press reset and start.
14. **State the problems you might encounter on the first drum.**
A. Flow from storage tank might be too fast.
B. Product might be too hot (drum will overfill).
C. Nitrogen might be in line.
15. **State what would be a concern in shipping a badly dented drum. If you had a question about a dented drum, state how you would resolve it.**
If drum is dented the metal could weaken and start leaking. Direct any questions to the loading coordinator or supervisor.
16. **State how you would load tetra drums for Glycol II. State what vessel this product is loaded from.**
A. Tetra is supplied by tank car on spot #10.
B. This product is pumped off and into the line running along the dike wall into the drumming building.
C. A flex hose is attached to the line & to the drum line for filling.
D. Flush a couple of drums to clear the line.
E. Fill as you would any of our products.
17. **State how the drum filler works.**
The lance must make contact with the three limit switches in sync. The bottom limit switch allows the fast valve to open. The scale checks the weight, if within fill limit the valve closes and the lance rises to the third limit switch. At this time the next drum is sent down.

- 18. State how the conveyor system works.**
- A. In sequence CV-7a belt drives to CV-7.
 - B. CV-7 is a gear driven roller to row 1 - 6.
 - C. XCV-1 = row one.
 - D. CV-2 = row two.
 - E. CV-3 = row three.
 - F. CV-4 = row four.
 - G. CV-5 = row five.
 - H. CV-6 = row six.
 - I. CV-8 = gear driven roller to CV-9.
 - J. CV-9 = gear driven roller to CV-11A.
 - K. CV-11A = belt driven to WB-1A (walking beam).
 - L. G-1 = gravity feed to CV-12.
 - M. CV-12 = gear driven roller to CV-13A.
 - N. CV-13A = chain driven direction for drum.
 - O. CV-13 = filled drum conveyor.
 - P. G-2 = gravity fed first drums to be taken off conveyor.
- 19. State what must be done with the computer input list on the drum line when the drumming procedure is revised.**
It must be replaced with the revised issue.
- 20. State why the computer input list must be replaced if nothing on the list changes.**
For document control reasons (date, page number changes, etc.)
- 21. State which drum positioner wheels are used with plastic drums. State which drum positioner wheels are used with steel drums.**
Large wheels on metal and small wheels on plastic.
- 22. State which product cannot be shipped with our national formulary products and why.**
EB drums can not be shipped with national formulary products because EB is classified as COMBUSTIBLE DOMESTICALLY.

Revisions:

No. 1	06-03-93	Added questions & answers 19, 20 & 21
No. 2	08-19-93	Added questions & answers 22
No. 3	12-12-94	In answer to # 9 deleted DV-275 in C & DV-265 in B, deleted E. changed work bust to bung. In 13 J. changed 16A answer A, B, C, D & E. Deleted a portion of answer in # 17.
	12-13-95	Yearly review, no changes.
	02-22-96	Yearly review, no changes.
No. 4	01-24-97	Revised 2 to include EB and DPM as combustible. Revised 7 to show replace green with orange. Revised 9 to reflect changes in tank contents. Revised 11 to reflect change in PM tank.