

Ethanolamines/Glycol Ethers In Plant Training (IPT)

Section Number :2A
Issue Number :1.2
Origination Date :08-09-93 Author: John Swims
Revision Date :12-23-97
Section Test :2A

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Basics Environmental Regulations

Answers:

- 1. Does our plant have an air permit?**
Yes, granted in May of 1993
- 2. What plant items are regulated by our air permit?**
All air emissions from the Ethanolamines/Glycol Ethers plant including all storage tanks emissions. Process vents (i.e. Steam ejector vents, steam ejectors, condensate drum vents, and ammonia scrubber vent). And fugitive emissions (i.e. Loading vents, valves, pumps, equipment openings, and cooling tower evaporation) are regulated by air permit.
- 3. What are the requirements of our air permit?**
Under the air permit number 1838t (m-3), the Ethanolamines/Glycol Ethers plant is allowed to discharge to the air volatile organic compounds, (VOC's), and inorganic compounds. The rate of emissions is based primarily on production rates. An increase in production above the initial preset limits would trigger a permit revision.
- 4. What are we required to monitor under the air permit?**
For some emission sources such as storage tanks, ammonia scrubber, fugitive emissions from valves, cooling tower and process vents, parameters such as process temperature, pressure, concentration, flows, and annual usage must be monitored to ensure permit compliance is achieved. In addition, production rate is also monitored to ensure compliance.

Fugitive Emissions

- 1. What are fugitive emissions?**
Fugitive emissions are emissions from valves, flanges, pump seals, process drains, compressor seals, and pressure relief devices.
- 2. What plant items are affected by this regulation?**
Ethanolamines/Glycol Ethers fugitive emissions includes emissions from valves, pumps, flanges, loading process, equipment openings, and line Openings. Annual, quarterly, or monthly monitoring for leaks is required for valves, pumps and flanges in EO, PO, MeOH, n-Butanol and PM service. Although loading vents are fugitives they are not subject to this regulation, but are monitored under EIQ requirements.

3. What is required to do under fugitive emission regulations?

Annually, quarterly, or monthly, each valve, pump, and flange in EO, PO, MeOH, n-Butanol and PM service is monitored for leaks with an organic vapor analyzer (ova). A leak defined as any item that registers a reading of 10,000 ppm or greater on the ova. Any leak must be repaired by the next monitoring period or at the next available shutdown.

SARA

1. What is SARA?

SARA is an acronym for Superfund Amendments and Reauthorization Act. Title III of this act would help increase the public's knowledge and access to information on the presence of hazardous chemicals in their communities and releases of these chemicals into the environment.

2. What plant items are affected by SARA?

All chemicals (i.e. Products, raw materials, additives, lab, etc.) In the Ethanolamines/Glycol Ethers plant are affected by SARA 312. SARA 313 affects 10 chemicals in the Ethanolamines/Glycol Ethers plant.

3. What are we required to do under SARA?

SARA 312 requires an annual inventory report of every chemical in the Ethanolamines/Glycol Ethers plant. This report includes things such as chemical name, location of chemical in the plant, and normal and maximum inventory.

4. What are the SARA 313 chemicals for our block?

- | | |
|-------------|--------------|
| A. EO | B. PO |
| C. METHANOL | D. N-BUTANOL |
| E. CHLORINE | F. AMMONIA |
| G. DEA | H. EB |
| I. DB | J. TBH |

Wrap/PPA

1. What is Wrap/PPA?

Wrap is an acronym for Waste Reduction Always Pays and PPA is an acronym for Pollution Prevention Act. The Wrap program is a Dow chemical program that reemphasized and formalized the company's environmental priority for waste reduction. The program places the responsibility of waste reduction on our experts, the generating facility. PPA is a federal regulation requiring companies to report the amount of waste generation.

2. What plant items are affected by Wrap/PAP?

All of the plant's air emissions, water emissions, and land or solid emissions from the Ethanolamines/Glycol Ethers plant are affected.

3. What are we required to do under Wrap/PPA?

The goal of the wrap program is to reduce or eliminate waste. So waste reduction efforts are measured using a ratio of pounds of waste generated per pound of product produced in the air, water, and solid media. This allows comparison of waste generated before treatment between facilities and years, independent of production rates. These ratios are generated quarterly or annually.

NPDES/Environmental Operations:

1. What is NPDES?

NPDES is an acronym for National Pollutant Discharge Elimination System. In provisions with the clean water act, this permit allows the Louisiana division plants to discharge water directly to the Mississippi river or to Bayou Bourbeaux.

2. What plant items are affected by our NPDES water permit?

The Ethanolamines/Glycol Ethers plant has four internal outfalls that are permitted to discharge into the Mississippi river and one non-permitted internal outfall that discharges into the Mississippi river. The permitted internal outfalls are 1811 (glycol ethers process area sump); 1821 (Ethanolamines process area sump); 1831 (Ethanolamines/Glycol Ethers product storage area sump); and 1841 (Ethanolamines/Glycol Ethers process area sumps overflow). Internal outfall 1851 is a non-permitted outfall which is used for Ethanolamines/Glycol Ethers process cooling tower blowdown.

3. What are the requirements of our NPDES water permit?

Under NPDES permit number wp1561/la 00033001, the Ethanolamines/Glycol Ethers plant is allowed to discharge a stream into the Mississippi river from a permitted outfall if the following limitations are met: the total oxygen demand (TOD) of the stream must be less than 200 mg/l (ppm) and the oil and grease of the stream must be less than 15 mg/l (ppm).

4. How many storm water/process runoff collection sumps does our block have? Name them. Which ones are permitted under NPDES?

- A. Six sumps.
- B. AREA I, AREA II, AREA III, AREA VIII, Tank car and tank truck sumps.
- C. AREA I, AREA II, AREA III, AND AREA VIII.

5. Describe what must take place before a permitted sump is released to the river.

Sampled for TOD, and oil grease by environmental services.

6. Name the process streams that we can pump to Environmental Operations.

AREA I SUMP, AREA II SUMP, AREA III SUMP, AREA VIII SUMP, T-240 OVERHEADS, D-180, D-280, tank car sump, tank truck sump, and the drumming building sump.

SPC

1. What is SPC?

SPC is an acronym for Spill Prevention and Control plan, which is a part of the Louisiana water quality regulations. This regulation involves the prevention and control of any spill (chemicals or oils) into navigable waters.

2. What plant items are affected by SPC?

The chemicals contained in the Ethanolamines/Glycol Ethers plant affected by this regulation are n-Butanol, MeOH, PO, EO, DEA, EB, DB, TB, ammonia and oil.

3. What are we required to do under SPC?

Under SPC regulations, an intensive description of the Ethanolamines/ Glycol Ethers plant spill prevention and control plan is discussed. This plan discusses what we do to prevent spills of these chemicals and what we would do if we did have a spill of these chemicals. Annual training on this spill and control plan is required.

SPCC

1. What is SPCC?

SPCC is an acronym for Spill Prevention Control and Countermeasure plan, which is the Federal Plan to prevent discharge of oil.

2. What plant items are affected by SPCC?

The chemicals contained in the Ethanolamines/Glycol Ethers plant affected by this regulation are oils. (I.e. Gasoline, transformer oil, compressor oil and pump oil)

3. What are we required to do under SPCC?

Under SPCC regulations, an intensive description of the Ethanolamines/ Glycol Ethers plant spill prevention and control plan is discussed. This plan discusses what we do to prevent spills of these chemicals and what we would do if we did have a spill of these chemicals.

Annual training on this spill and control plan is required.

RCRA:

1. What is RCRA?

RCRA is an acronym for Resource Conservation and Recovery Act. RCRA is a law developed to regulate the management of hazardous and solid waste. It applies to generators, transporters, and treatment, storage, disposal, and recycle units.

2. What plant items are affected by RCRA?

RCRA regulations affects the waste lab chemicals stored in the portable 500 gallon tank, the waste oil stored in a permanent 300 gallon drum, and solid waste stored in containers (i.e. Plastic paks). Each of these items are located south of the Ethanolamines/Glycol Ethers plant maintenance building.

3. What are we required to do under RCRA?

RCRA affects the way we handle, store and treat hazardous waste. A once per week inspection of all hazardous waste containers is required. For all non-permitted RCRA facilities, the maximum storage period for hazardous waste is 90 days. Since the Ethanolamines/Glycol Ethers plant is a non-permitted RCRA facility, all hazardous waste must be moved to a permitted facility (the Louisiana division environmental operations plant) within a 90 day maximum. Annual training on the handling and storing of hazardous waste is required.

Although non-hazardous waste is not regulated by RCRA, RCRA guidelines are followed when handling or storing non-hazardous waste.

TSCA:

1. What is TSCA?

TSCA is an acronym for Toxic Substance Control Act. This law regulates the manufacturing, importing, selling, and processing of any chemical used for commercial purposes. It also regulates the manufacture of new chemicals either for research or commercial purposes.

2. What plant items are affected by TSCA?

Every chemical used by the Ethanolamines/Glycol Ethers plant must be contained on the TSCA inventory list.

3. What are the requirements of TSCA?

TSCA maintains an extensive list of all chemicals used for commercial purposes and all chemicals used by the Ethanolamines/Glycol Ethers plant must be on this list. TSCA requires that all adverse reactions caused by any chemicals be reported to EPA (see TSCA section 8c) annual TSCA training is required.

EIQ:

1. What is EIQ?

EIQ is an acronym for Emission Inventory Questionnaire. This is not actually a regulation, but it is a complete inventory of all point sources and an estimated emission quantity for each point.

2. What are the requirements of EIQ?

Requirements includes an annual or quarterly estimate of emission rate for each point source. An examination is also done to ensure that the EIQ list includes all point source in the Ethanolamines/Glycol Ethers plant.