

Ethanolamines/Glycol Ethers

Tier 3 Procedure

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Title: Handling And Disposition Of Non-Conforming Product
References: Glossary Of Equipment Identification (Text # 114)
QSP10 Control Of Non-Conforming Product
Blowing Lines And Equipment (1703)
Raw Material And Co-Producer Acceptance (1509)
Flagging Finished Check/Storage Tanks (1003)
QSP 07 Inspection and Testing

1505 Handling And Disposition Of Non-Conforming Product

1.0 Objective:

- 1.1 To ensure the proper identification and disposition of non-conforming product.
- 1.2 To ensure that transfer lines contain typical product after transfers of atypical product.

2.0 Responsibility:

- 2.1 It is the responsibility of the plant operations and Materials Flow group personnel to ensure that this procedure is fully complied with.
- 2.2 It is the responsibility of the operations personnel to ensure that this procedure is executed in safe and efficient manner and that all materials introduced into the process have complete analysis prior to addition as defined in QSP07 Inspection and Testing.

3.0 Definitions:

- 3.1 Typical values are +/-3 sigma based on the previous years process data. Atypical product components are outside of our typical values but may still be within customer specifications.
- 3.2 Continuous flow raw materials are obtained from internal Louisiana Division suppliers and introduced directly into the process. They are not held in storage in the Ethanolamines/Glycol Ethers plant.
- 3.3 Rerun is product that is reprocessed by being introduced into T-240 or T-110 and by normal process flow is brought back into conformity in the finishing columns.
- 3.4 Recycle is product reprocessed in R-101 or R-201 to adjust the product mix or bring into conformity various quality parameters.
- 3.5 Non-conforming product is product that does not meet production specifications.

3.6 Plant site - Block 55

4.0 Procedure:

4.1 Continuous flow raw materials:

4.2 As per raw material specifications, when a continuous flow raw material is found to be non-conforming by the supplier, a call will be placed to the Ethanolamines/Glycol Ethers control room by the supplier. The control room operator will record the call in the operations log book describing the raw material determined to be non-conforming.

4.3 The non-conforming material will then be tracked through the system to determine if it had an undesirable effect on the finished product. Non-conforming product (as a result of the non-conforming raw material) will be reprocessed or isolated depending on the non-conformity.

4.4 The control room operator will determine actions to minimize the effects of the non-conforming component on the process. Consultation with supervisory or technical staff may be needed.

4.5 The control room operator will monitor the process to determine the effects of the non-conforming component in the raw material on the process.

4.6 Monitoring will consist of additional testing as needed to determine the effect of the non-conforming raw material.

4.7 Continuous flow raw materials are ethylene oxide, propylene oxide and methanol.

4.8 Delivered raw materials, co-producer product, or product returned from customers or terminals:

4.9 The procedure for handling non-conforming delivered raw materials is described below:

4.10 Ammonia - a red sign with the words non-conforming product printed on it will be placed inside of the tank car dome. In addition the tank car number will be removed from the PDP-11. The tank car will be returned to the supplier. The non-conforming product sign will be removed prior to the tank car leaving the block.

4.11 N-butanol - a red sign, with the words non-conforming product, will be hung on the off load valve. This sign will be removed prior to the barge leaving the docks to be returned to the supplier.

4.12 Oleic acid - the tank truck would be returned to the supplier.

4.13 Sodium borohydride - non-conforming product will be segregated in building 5502 (maintenance shop). A red sticker with non-conforming printed on it will identify this product.

4.14 Potassium hydroxide flake - if a certificate of analysis does not accompany the shipment, the product will be considered non-conforming, until the appropriate documentation (c of a) is obtained.

4.15 Co-producer product - tank trucks should be returned to the supplier. A red "non-conforming" product sign should be attached to the dome of tank cars until they can be removed from the block.

4.16 Product removed from the process temporarily and stored until the proper disposition can be determined must be flagged with the "non-conforming" product sign attached to the container. Complete analysis must be performed prior to reprocessing, disposal, or shipment. Source of this material may be in process, stored intermediate, returned product, or finished product that does not conform to quality parameters defined by production specifications. Disposition of the material will be determined by the operations personnel with input from the supervisory or technical staff as necessary.

4.17 Stored intermediates:

4.18 Stored intermediates may be defined as non-conforming if they are cross contaminated with other series products.

4.19 Disposition of contaminated/non-contaminated stored intermediates will be determined by the operations team with input from the supervisory or technical personnel as needed.

4.20 Wet ethanalamines (stored intermediates) will be reprocessed in T-240.

4.21 A stored intermediate that cannot be reprocessed will be flagged until it's disposition can be determined.

4.22 Crude material may be stored in shipment containers until such time as it can be off loaded for reprocessing(see 4.16) The vessel (if a tank truck) may be stored on the plant site. The vessel (if a tank car) may be stored on the plant site or in the rail yard, listed as a status 14. The vessel (if a barge or ship) will be off loaded or special released (refer to tier two procedure for non-conforming product for details on special release product). The vessel (if a drum) may be off loaded to the appropriate rerun (intermediate tank) for reprocessing or special released.

4.23 If the vessel (tank truck, tank car, ship or barge) is stored for any length of time on the plant site, it will be identified by hanging a non-conforming product sign on it until it is off loaded or removed from the plant site.

4.24 Drums may be stored in Area 3 within the barricaded area without non-conforming tags. Drums that are not stored in the designated area must be labeled non-conforming. Rerun drums will not require labels, but will be color coded as per what product it contains:

1. Black - PM series
2. Green - Amines series
3. Orange - EB series

4.25 In-process materials (tower overheads/bottoms):

4.26 When an in-process material is found to be non-conforming, through laboratory analysis, an adjustment may be made to the process to bring the non-conformity back into typical range. The finished check tank analysis will determine conformity.

4.27 Finished check/storage tanks:

4.28 All atypical finished check tanks will be handled according to its non-conformity.

4.29 Upon determination that a finished check tank is atypical, calculate the effect it would have on the storage tank (using the PM1 program) if it were transferred to storage. The impurity level of the check tank and the storage tank and the results of the transfer will be written on the product analysis work sheet. Product found to be non-conforming and not to be released as special shipments will be considered non-conforming stored intermediates and disposed of in accordance with the above section on stored intermediates. Tanks/containers must be properly flagged "non-conforming".

4.30 If the calculation indicates that this product will not put the storage tank out of typical range, the board person can approve this transfer. Refer section number 1703, blowing lines and equipment procedure. Line blowing will not be required if transferring PM through the dedicated 3" transfer line.

4.31 If the calculation indicates that this product will make the storage tank atypical, transfer may be made based on careful consideration of resultant effects on quality of the material in the storage tank. At no time should a transfer be made that will result in a storage tank becoming non-conforming (outside production specifications). The storage tank should be flagged as atypical.

4.32 Options for disposition: rerun, recycle or incineration. Other options may be considered by the production supervisor and the area engineer.

4.33 Drumming building rerun tanks transferal:

4.34 When drumming building rerun tanks(D-185, D-199, or D-245) are sampled, use the following criteria to determine whether or not the tank contents can be transferred to plant check tanks(DV-113, DV-114, or DV-243A)

4.34.1 If the water % is within the range specified on the product analysis work sheet, then one can okay the transfer and

4.34.2 If the color is within the range specified on the product analysis work sheet, then one can okay the transfer and

4.34.3 Perform the cross-contamination formula on the product analysis work sheet. If resulting cross-contamination in check tanks is less than or equal to .1%, then one can okay the transfer.

4.35 If any of the above three criteria are not met, then consult the area engineer for further instructions.

4.36 Packaged products prior to shipment:

4.37 Tank cars, tank trucks, drums, and marine ships/barges determined to be non-conforming may be off loaded into the appropriate intermediate tank for reprocessing after complete analysis and it has been determined that reprocessing of the material can be done without compromising the process.

4.38 Final product in shipment containers determined to be non-conforming may be stored in that container until such time as it can be off loaded for reprocessing. The vessel (if a tank truck) may be stored on the plant site. The vessel (if a tank car) may be stored on the plant site or in the rail yard, listed as status 14. The vessel (if a barge or ship) may be off loaded or special released (refer tier 2 procedure for non-conforming product for details on special release product). The vessel (if a drum) may be off loaded to the appropriate rerun (intermediate tank) for reprocessing or special released.

4.39 Non-conforming product stored in shipment vessels will be labeled as such and will be handled on a case by case basis. Plans will be developed and documented for each case.

4.40 Other options for disposition may be considered by the production supervisor and the area engineer.

4.41 Use of non-conforming raw materials to continue production:

4.41.1 To use non-conforming raw materials or co-producer product in the process permission must be obtained. (refer to raw material and co-producer product acceptance procedure)

5.0 Handling/disposal of damaged product or containers.

5.1 Deal with the problem as soon as it occurs, reject shipment if possible.

5.2 Get help with the problem. Get "experts" involved with finding out ways to handle and dispose of the product and/or containers.

5.3 Follow the procedure for personal protective equipment when handling the product.

5.4 Have discussion on ways of clean up, disposal or any type of work that needs to take place. Some items for discussion are:

5.4.1 PPE

5.4.2 Should be in a decontamination zone.

5.4.3 Decontaminate tools and clothing.

6.0 Revisions:

Revision #1	06/12/95	3.1 Changed shipment to process. Revised 4.18 and deleted 4.20 Revised 4.32 and deleted 4.34-4.35 Renumbered after each deletion
Revision 2	6/19/96	Modified 2.2, 3.4, 4.4. Added 4.16 and renumbered 4.0 section. Modified new 4.19, 4.28, 4.30, 4.33
Revision 3	10/3/96	Included MFG personnel in responsibility, modified 4.23 and deleted 4.35 and renumbered
Revision 4	02/14/97	Added 4.32 - 4.34 about drumming building rerun tanks
Revision 5	02/17/97	Added 4.24, revision on rerun drums and renumbered.