



## Annexure-I

**Part-1 : Technical Specifications & Acceptance norms for supply of Drums****A : Technical Specifications**

- 1.00 HM-HDPE Dark Blue colour of 235 liters capacity drum (L ring) with 9 Kgs. & 8.5 Kgs. weight with IMDG code confirming to IS 6312 (latest) for packing of Ethyl Acetate (CAS No 141-78-6) cylindrical with closed mouth with 2 bungs on top head.
- 1.01 Shape : The drums shall be L ring, closed mouth with 2 bungs on top head drums shall be cylindrical in shape and stackable vertically without support. The drums shall not have any bulging from the sides in both empty and filled conditions.
- 1.02 Capacity : 235 liters + 5% vapour space, but brimful capacity shall not less 242 liters.
- 1.03 Weight :  
 A : For 9.0 Kg Drum : The weight of drum shall be  $9.0 \pm 2\%$  Kg.  
 B : For 8.5 Kg Drum : The weight of drum shall be 8.5 kg. **(No negative tolerance).**
- 1.04 **Dimensions : The drum dimension shall be strictly as under :**  
**Diameter at belly** : **585 mm  $\pm$  5 mm**  
**Height** : **1010 mm  $\pm$  5 mm**
- 1.05 Thickness of the of the body, TOP / Bottom of barrels should be 2.1 mm.
- 1.06 Material of construction: The drums shall be manufactured from 100 % virgin prime quality HM- HDPE material confirming to Properties of HDPE Granules will be as per standard specifications of M/s RIL for HDPE Grade LBM 52GB001. No reprocess grade material shall be used.

Drums colour shall be Dark Blue and shade will be as per sample provided by GNFC and uniformity shall be maintained for Dark Blue colour shade for each lot.

While manufacturing drums, in order to protect against U.V. rays of Sun, supplier will use required quantity of U.V. Stabilizer/U.V. Stabilized master batch. All drums supplied shall have minimum guaranteed shelf life of 1 year when exposed to Sun rays in filled condition.

Vendor should inform Brand name, Name and Address of manufacturer and percentage used of UV stabilized master batch / UV stabilizer which vendor intent to use while manufacturing drums. Vendor shall inform rate (inclusive of taxes and duties) for above UV Stabilized master batch / U.V. Stabilizer in price-bid.

- 1.07 IMDG approval: Vendor to note that GNFC require full quantity of barrels (9 Kgs. & 8.5 Kgs. Weight) with IMDG approval. Supplier shall obtain IMDG (UN No) certificate from Indian Institute of Packaging (IIP). Supplier shall submit valid



certificate for drum before start of the supply of drum to GNFC and screen print UN No. on each drum as specified in the certificate.

The total cost involved in obtaining UN No. and its extension from M/s IIP will be borne by vendor during the contract period. You shall furnish UN test certificate valid for a period of 12 months. UN test certificate charges including its extension shall be to your account.

In case at the time of dispatch of barrels the balance validity of your UN certificate is less than 3 months, you will invariably submit us extension of the same UN certificate for further 6 months, before the validity of the original certificate gets expired.

Your UN certificate must be valid for 3 months from the date of validity of our ARC, enabling us dispatch the barrels supplied by you during last 2-3 months of the contract.

- 1.08 Drums shall be suitable for packing of Ethyl Acetate (CAS No 141-78-6).
- 1.09 Printing and Colour: The printing matter on drums shall be as per our Annexure-C OR as provided by GNFC from time to time. Color of printing matter is sparkling white color for 9 Kgs. Weight drums & Yellow color for 8.5 Kgs. Weight drums.
- 1.10 Opening : Drums shall have 2 nos, 50 mm each, thread bung with cap along with PTFE or compatible MOC gasket and tag ring on both openings of drums for tagging plastic seal with twisted 28 gauge metal wire.
- 1.11 Party has to supply equal numbers of HDPE cap seals with inner ring/gasket to seal for both opening of drums.
- 1.12 The bottom of drum shall be marked / embossed with details of manufacturing month and year. The drums supplied shall be checked at GNFC site for these marking and in case supply is more than 3 months old, same shall not be accepted.
- 1.13 The drums at bottom should bear vendor's company's name clearly.
- 1.14 Recovery of leaking / bursted drums during filling operation: Though the lot is accepted based on sample testing, GNFC will recover cost of defective drums / leaking drums / bursted drums found during actual filling operations at GNFC site OR you shall replace the same.

In case GNFC found large numbers of drums with defects / excessive problem of leaking / bursting, GNFC will not use such lot and recovery will be made from vendor for such lot.

- 1.15 Vendor confirms that the drums after it is received at GNFC shall be tested in accordance with IS-6312 specifications and standard fixed by GNFC. GNFC reserve its right to inspect the drums at any time in vendor's factory and / or can appoint any external agency for inspection of drums, if required. However, test results of GNFC's Inspection Department shall be treated as final and binding upon Vendor.



1.16 The fitting of the caps MUST be PERFECT

1.17 The Surface of the drum MUST be SMOOTH and flash shall be removed by proper shaving.

**B : Inspection at Supplier's works :**

The inspection of the barrels will be carried out at vendor's works prior to despatch either by our 3rd party inspection agency (TPI) or by GNFC's as may be advised by GNFC from time to time. However, GNFC's inspection engineer will pay surprise random visits to vendor's works to monitor internal quality checks. TPI shall fill up all the details in attached format of inspection at supplier's works. Supplier shall submit original form of TPI inspection along with supply of drums to GNFC. TPI charges shall be borne by GNFC.

- a. Dimension Test : Barrel should be as per IS 6312 (latest edition) Type 2A Class L. Dimension should be checked and shall be as specified in PO.
- b. Weight of drum :
- c. Capacity test
- d. Pin hole test
- e. Stack test shall be as per IS6312 clause 8.2 for 2 M height and to be kept for a reasonable period of time.
- f. Closure leakage test shall be as per IS6312 clause 8.3. There shall be no evidence of leakage from lowest point if kept for 1 hour.
- g. Drop test shall be carried out as per IS6312 clause 8.4.1 at ambient temperature. All drop test to be performed as per Annexure E.
- h. Pressure tightness test shall be as per IS6312 clause 8.5 to be carried out with air as per F1.1 at 35 Kpa as per procedure described in F3.1.
- i. Hydrostatic test shall be as per IS6312 clause 8.6.2 to be carried out at higher of 110 Kpa or 1.5 x vapour pressure of nominated material at 55 deg C. Pressure to be maintained for at least for 5 minutes and barrel shall not rupture nor show any leakage from a barrel.
- j. Wall thickness Test
- k. UV Test.
- l. All drums should be supplied within specified tolerances.
- m. Any other tests as per provision of IS 6312

**C : Inspection of drums at GNFC site :**

In addition to the inspection carried out by Third Party Inspection (TPI) agency/ GNFC at Vendor's works, FINAL inspection of barrels will be carried out on receipt of material at GNFC site. Site inspection and acceptance/ rejection norms will be as under :

1. Review / verification of Third Party Inspection (TPI) / GNFC inspection report to be carried out.



2. 10% barrels, of the lot received at site against each chalan, will be selected at random by GNFC for inspection.
3. Visual inspection will be carried out in these 10% sampled barrels.
  - a. If no defect is observed, complete lot will be ACCEPTED.
  - b. If defects are observed in less than 10% barrels, of sampled barrels (i.e. 2 barrels in 20 sampled barrels of lot of 200 barrels), complete lot will be ACCEPTED barring defective barrels.
  - c. If defects are observed in more than 10% barrels, of sampled barrels, complete lot will be given for SEGREGATION. Vendor has to arrange for segregation work at our site without any extra cost.
  - d. After segregation by the vendor, again inspection will be carried out for 10% sampled barrels. Here lot size will be considered as number of barrels offered for inspection after removing defective barrels.
  - e. If defects are observed in less than 10% barrels, of sampled barrels, complete lot will be ACCEPTED barring defective barrels.
  - f. If defects are observed in more than 10% barrels, of sampled barrels, again complete lot will be given for segregation and above procedure will be repeated.
  - g. Maximum 3 segregations will be allowed. After third segregation, if defects are observed in more than 10% sampled barrels, complete lot shall be REJECTED.

In addition to above, following tests will be also carried out:

- Bung will be checked for compatibility with the acid to be filled in the supplied drums by immersion test.
  - The quality / colour of Ethyl Acetate should not change during immersion test.
  - GNFC's test results shall be final and binding on supplier.
4. After each segregation, re-inspection is to be carried out by GNFC. Charges of Rs 2000 will be deducted towards charges of re-inspection as follows.

<b>Usage Decision Code</b>	<b>Description</b>	<b>Inspection Charges (Rs)</b>
AR1I (Re-Inspection)	Lot is accepted after First Re-inspection	2000
AR2I (Re-Re-Inspection)	Lot is accepted after second Re-inspection	4000
AR3I (Re-Re-Re-Inspection)	Lot is accepted after third Re-inspection	6000