

Summary of Project

GLASS Holdings Inc. plans to store Asphaltene Inhibitor, Corrosion inhibitor, Biocide, Hydrate Inhibitor, Demulsifier, Chlorine Scavenger, Defoamer and Hydrate Inhibitor.

The product will be stored as follows:

- ISO Tanks constructed from 316 stainless steel; quantity per tank: 5,000 gallons.
- Plastic tanks constructed of HDPE; quantity per tank: 275 gallons.
- Steel drum constructed from carbon steel either lined or unlined: quantity per drum – 55 gallon.

Company complies with UN package performance standards to ensure that from a safety and regulatory adherence to laws and regulations. Material compatibility, material specific gravity, vapour pressure, and flash point are key elements which feed into the decision on the kind of container selected and used for transport and storage as well as the fill weight of the material. All containers purchased will be stencilled or embossed by the container manufacture with the UN package performance standard. An example of a performance package standard for a 10L plastic pail follows:

10L plastic pails. UN specification 3H1/Y1.8/100 The UN specification is explained below. A screw on cap required. Similarly, a 55 gallon closed head steel drum would have UN specifications of 1AX / X1.8 / 300

1	Package Identification:	1 Drums / Pails 2 Barrels 3 Jerricans 4 Boxes 5 Bags 6 Composite Packaging (i.e. Steel/Plastic)
A	Material	A Steel B Aluminum C Wood G Fibre H Plastic
1	Package Type	1 Closed Head 2 Open Head
Y	Signifies Packaging Group for Which the Package was Tested	X Groups I, II and III Y Groups II and III Z Group III
1.8	This number signifies the specific gravity for which the design type was tested.	
100	This is the hydraulic test pressure in kilopascals (kPa).	

1,000 liter plastic containers will be marked with the following UN package performance standard. These are considered composite containers.

8. Kennzeichnung / Marking

Die nach der zugelassenen Bauart serienmäßig gefertigten Großpackmittel (IBC) sind wie folgt zu kennzeichnen.
Intermediate Bulk Containers manufactured in series corresponding to the approved design type shall be marked as follows:

IBC SM:

 **31HA1 /Y/..../D/BAM 11027-**/4070/***

IBC RM-SM:

 **31HA1 /Y/..../D/BAM 11027-**#RM/4070/***

31HA1 indicates that the container is for liquids

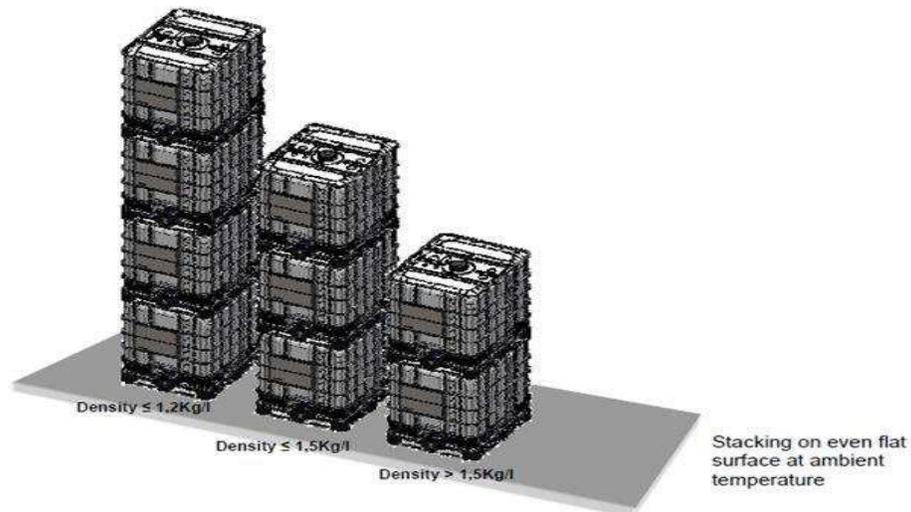
“H” denotes IBC

“A” indicates that the container is composite of HDPE within an aluminium frame on either a wooden or aluminium pallet.

“Y” indicates that the container is suitable for carrying non-hazardous materials and hazardous material assigned packing groups II and III

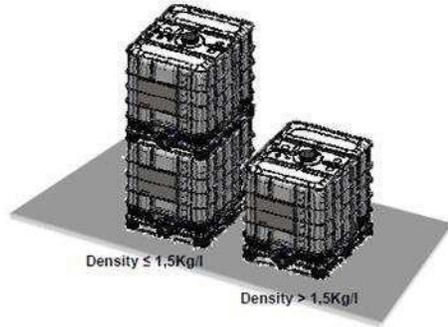
Company uses best practices recommended by the container manufacturer along with corporate guidelines to determine how many containers can be stored in a stock. . The following diagrams show the recommended stack heights based upon the specific gravity of the product. Should local regulations stipulate a lesser stack height then local regulation will take precedence.

Static load:



Stacking height for dynamic loads (loads exposed to motion) should not exceed 2 high and must be secured for transport.

Dynamic load:



The IBC's need to be secured during transport.

Never stack high weight filled IBC on low weight filled IBC.

Under ideal conditions plastic drums on pallets can be stacked four high. However, other factors impact the decision on drums stack height such as temperature, partially filled drums, exposure to direct sunlight, drums fitted with pressure relieving vents, density of the product. When taking these safety factors into consideration along with weight of each drum Company limits to drum stacks to 2 to 3 pallets per drum stack. Iso Tanks and offshore tanks will be stacked 2 high.

ISO Tank are considered portable tanks under UN performance packaging standards and are built to meet either T7 or T11 specifications. Company products can ship and store in either T7 or T11 specification iso tanks.

Safety features on the container tanks



20,000 L Container Tank

- Protective frames
- Pressure safety valves
- Internal safety shut-off valve with redundancy
- Regular 2.5-year inspections



Stainless steel construction

7 cm (3 in) flame-retardant insulation

Outer aluminum shell



External Valve

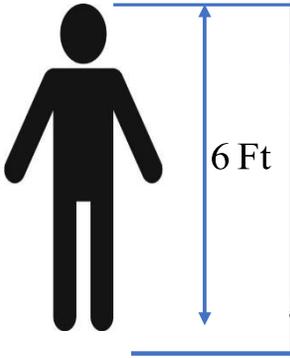


Internal Shut-off Valve

Containers stored at site and transported



20,00L
Container
Tank
(Fleet of
90 Tanks)



5,000 L Tank
(Fleet of 14 Tanks)



2,100 L Tank
(Fleet of 13 Tanks)

Product Transfer



Imported finished product



Pump



Inventory product to go offshore



Either
Tank



Product Filtration



- Container tank recirculation to meet particle specification
 - 100 percent closed system – No vapors



Map showing Glass Holding Inc. and surrounding areas.

