MSDS for Clear/Amber Glass Bottle

We hereby certify that types III soda-lime silica glass of Clear/Amber Glass Bottle complies with China SDFA YBB00272002-2015 and meets the chemical characteristics specified in the Chinese Pharmacopoeia 2010 edition, and in the United Stated Pharmacopoeia USP 38 edition, and European Pharmacopoeia 8.0. The following is the test method and quality certificate:

1- Hydrolytic Resistance

Method:

- Determining the hydrolytic resistance of the interior surface of glass bottles when subjected to attack by water at 121℃±1 for 60mins, measured by titration of a known aliquot portion of the extraction solution produced with hydrochloric acid solution, in which case the resistance is inversely proportional to the volume of acid required.
- Classification of glass containers according to the hydrolytic resistance of the interior surfaces determined by the method specified in stipulation of China National Standard GB12416.1-90(equal to ISO 4802/1-1988).

We certify Clear/Amber glass bottles comply with the requirments specified hydrolytic resistance container classes: HC3.

2- Glass Type

According to USP38, follow Powder Glass test, we certify Clear/Amber glass bottles comply with the requirements of USP type III glass containers. The Titrable acid consumption does't exceed than 8.5ml of 0.020N Acid.

3- Thermal shock resistance

Method:

- Withstand the thermal shock produced by a temperature difference of 42℃ in the case of soda-lime glass.
- Sampling 13pcs for test, no samples broken.

We certify that our clear/amber glass bottles all comply with the requirements specified Thermal shock resitance of the standard GB4547-84 (equal to ISO standard 7459)

4- Internal pressure resistance

Method:

- Fulfill water into the bottle, set on the test equipment, and adding press with speed up to 6bar, keep running for one minute, passed test if not broken.
- Clear/Amber glass bottles all with stand the pressure of 6bar, complies with China National Standard GB4546-84(equal to ISO7458)

5- Residual stress

Method:

- The clear/amber glass bottles shall be annealed so that the maximum residual stress does not produce an optical temperature exceeding 40nm per millimeter of glass thickness when the bottles are view in strain

viewer(specialized equipment)

- No sample exceeding the maximum residual stress.

We certify Clear/Amber glass bottles all comply with China National Standard GB12145-90 and ISO8362-4.

6- Glass formula:

SiO2	72±4%
Al2O3	2±2%
CaO	9±3%
MgO	2±2%
K2O+Na2O	14±3%
Fe2O3	0.3±0.25%

7- Glass Storage

Storage of glass bottle should be free from moisture.

山东省药用玻璃股份有限公司
SHANDONG PHARMACEUTICAL GLASS CO.,LTD
(GENERAL MANAGER)

Liu Jian (Signature)

Assurance Quality Department Manager