



Extractables

Flint Borosilicate glass AXBTA type I for pharmacy

- Glass n°CAS 65997-17-3 n°EC 266-046-0
- Composition : Glass has been defined by ECHA (European Chemical agency) as an UCVB substance « Unknown or variable composition, complex reaction products or biological materials »

▪ SiO_2		68 – 72%
▪ B_2O_3 :		10 – 14%
▪ RO :	CaO + ZnO + BaO	1 – 9%
▪ R_2O_3 :	Al_2O_3	2 – 4%
▪ R_2O	$\text{Na}_2\text{O} + \text{K}_2\text{O}$	6 - 13%
▪ Autres		

Impurities

▪ Fe_2O_3	<0.1%
▪ TiO_2	<0.1%
▪ ZrO_2	<0.1%
▪ Heavy metals	< 100 ppm (Directive Emballage 94/62/CE)
▪ Others	

- Physical and chemical specifications :
 - Type I Flint Borosilicate glass
 - Coefficient of expansion : $45 \text{ à } 70 \cdot 10^{-7} \text{ K}^{-1}$
 - Density : $2.3 \text{ à } 2.6 \text{ g/cm}^3$
- Extractables
 - Results after autoclave at 121°C 1h - high purity water in 100 ml vials conforming to European pharmacopeia §3.2.1 Essai A
 - Determination by ICP-OES optima 7300 DV Perkin Elmer in the extract solution
 - Note SGD LB 11/09/02

(mg/L)	Si	Na	K	Ca	Mg	Al	Fe	B	Ba	Ti	Zn
AX BTA	0.33	0.13	0.07	0.02	0.001	0.04	0.001	0.07	0.04	0.00	0.02

Christophe Wagner, R&D Director

Mers les Bains, February 13th, 2013.