Influence of Test Vehicle Storage temperature and Vehicle Age on VIAQ

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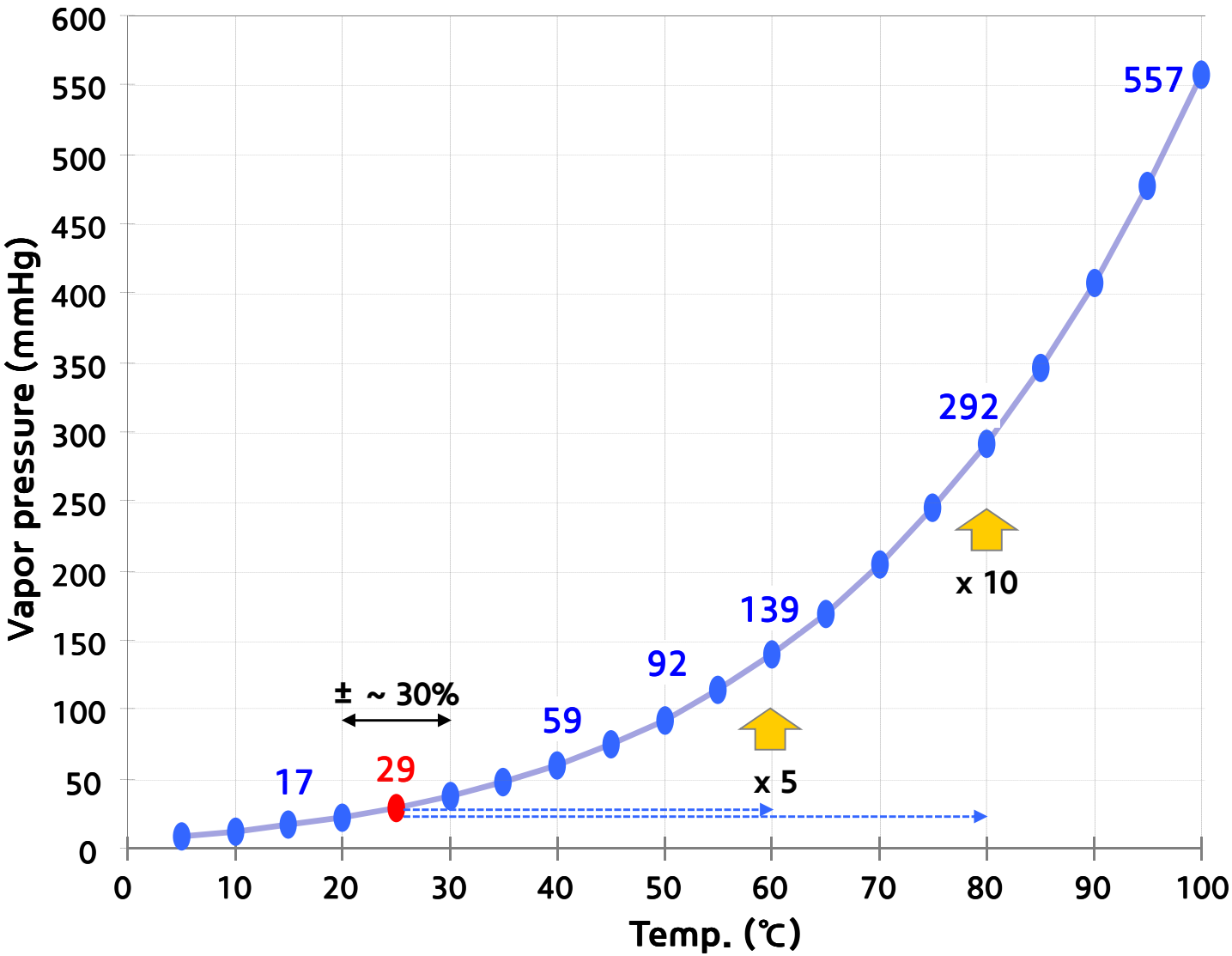
Hyundai Motor Company

◆ Vapor pressure of Toluene

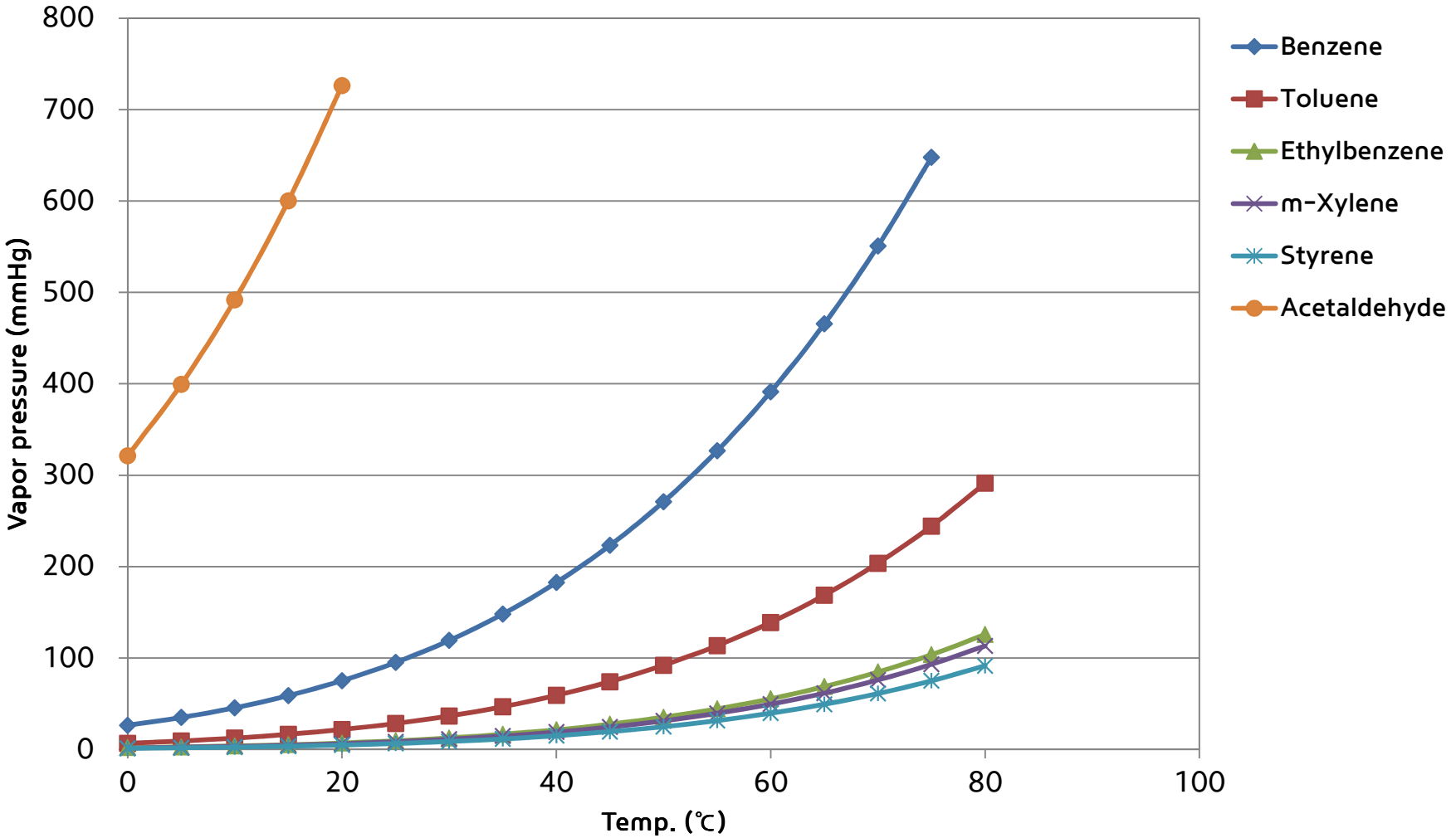
Vapor pressure curve of Toluene : 20 → 25 ℃, Vp increases ~ 30 %

Temp (℃)	Vp (mmHg)	Rel. Emission
5	9	
10	12	
15	17	
20	22	76
25	29	100
30	37	127
35	47	
40	59	
45	74	
50	92	
55	114	
60	139	479
65	169	583
70	204	
75	245	
80	292	1007
85	346	
90	408	
95	478	
100	557	



◆ Comparison Vapor pressure curve of VOCs

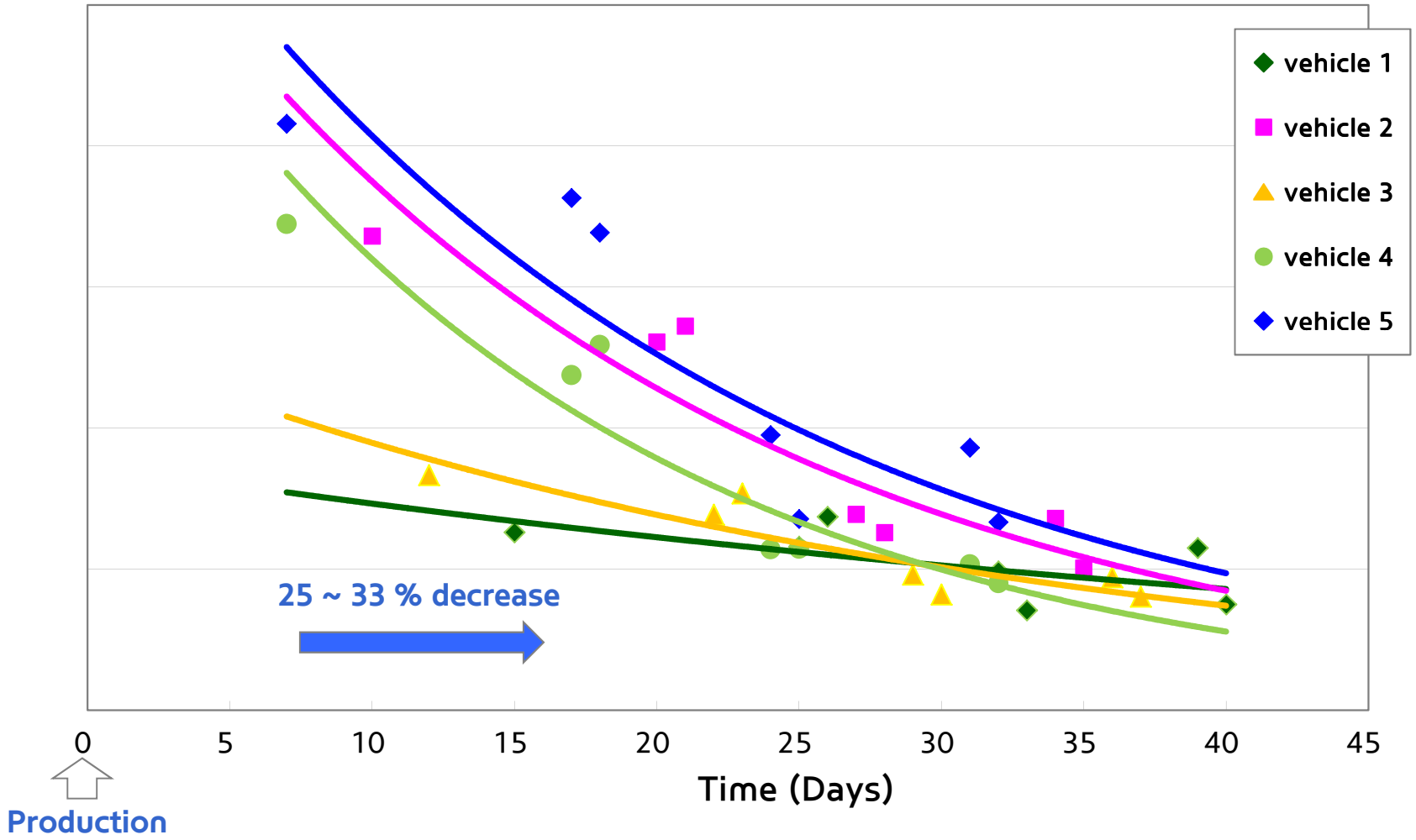
Vapor pressure curves of BTEXS and Acetaldehyde



◆ VOCs Decreasing tendency as time passed

Toluene concentration during 7 to 40 days after production

※ Storage condition : 25 ± 2℃, no sunlight



◆ Summary

- Vapor pressure which affects VOCs emission increases 30% in 20 ~ 25 ℃ range, and when temp. is 60 ℃, Vp is 5 times higher than on 25 ℃.
  - Ambient test mode temp. : Which temp is proper? 23 or 25 ℃?
  - Storage temperature and minimum duration have to be determined.
- When vehicle storage in temperature-controlled condition, 25 ~ 35 % of toluene emission decrease within initial 7 days.

Thank you