



ColorMatrix®

Amosorb SOLO₂

Active / Passive
O₂xygen
Scavenger

Passive
CO₂
Barrier

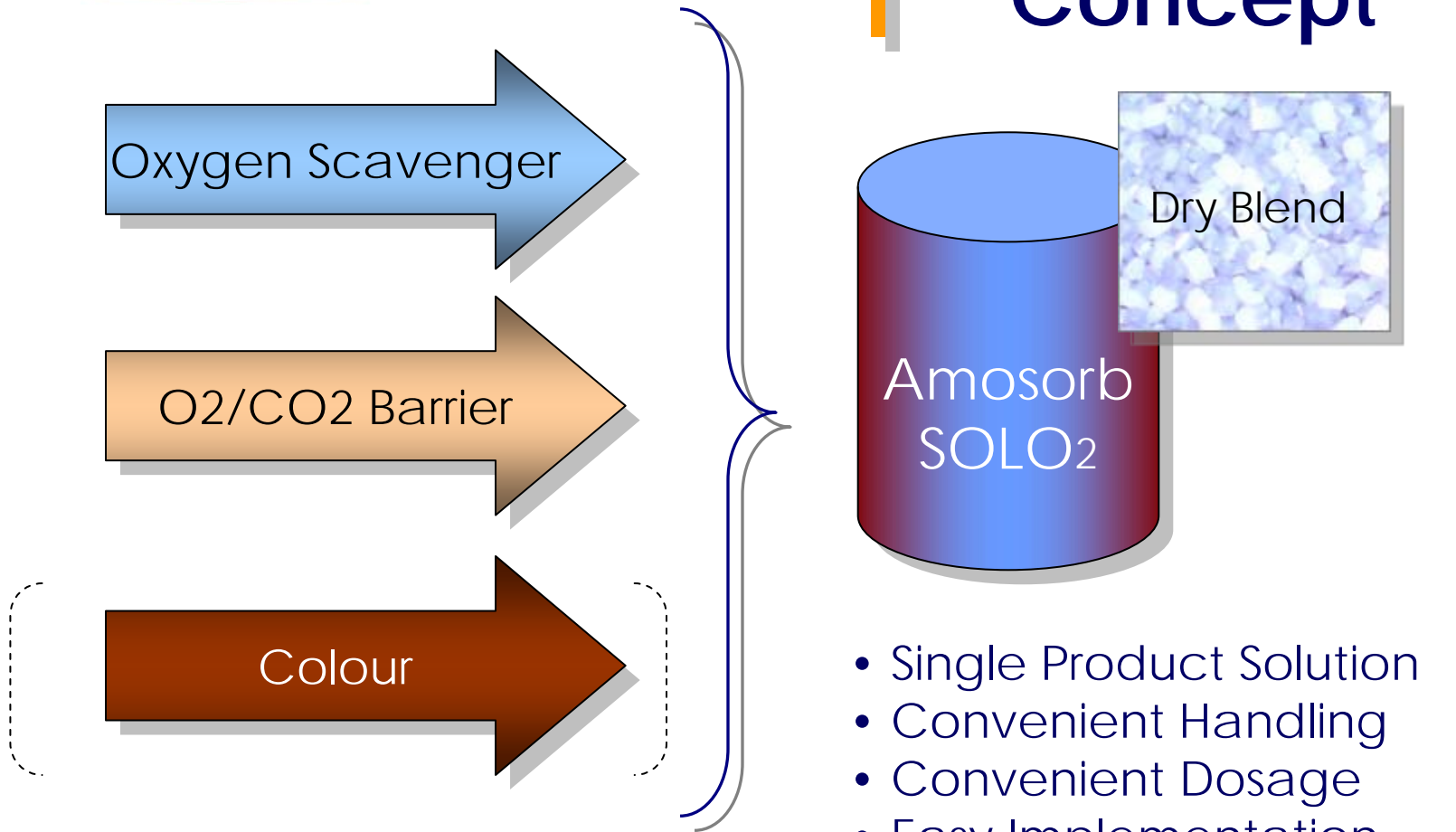


Mono-Layer PET Bottles



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Amosorb SOLO₂ Concept



- Single Product Solution
- Convenient Handling
- Convenient Dosage
- Easy Implementation
- Consistent Performance
- Competitive Solution



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Amosorb SOLO₂ Grades

Amosorb **SOLO₂-1**

- Use Level : 5~7%
- Bottle Size : 1.25L – 2.50L
- O₂ Shelf Life Target : 4 – 6 months
- CO₂ Shelf Life Target : 3 – 5 months



Amosorb **SOLO₂-2**

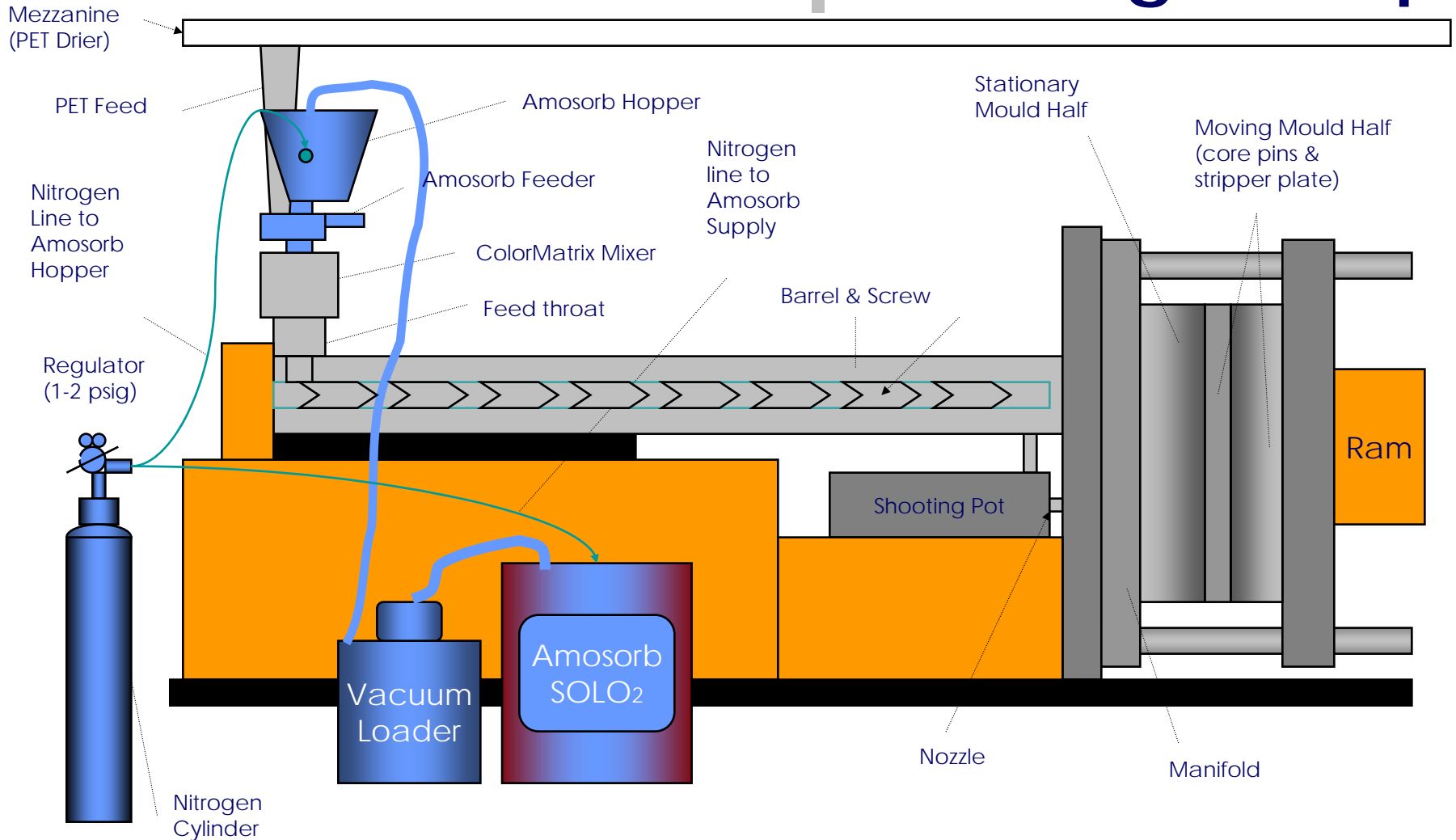
- Use Level : 6~8%
- Bottle Size : 0.50L - 1.0 L
- O₂ Shelf Life Target : 3 – 4 months
- CO₂ Shelf Life Target : 3 – 5 months





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Amosorb SOLO₂ Dosing Set-Up





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Amosorb SOLO₂ **Modelling**

- Current model data does not yet account for oxidation of Nylon
- Model will be fine tuned as real data becomes available.
- Amosorb working as active oxygen scavenger
- Nylon working as passive barrier for O₂ and CO₂
- Two grades set-up for modelling:
 - Amosorb SOLO₂-1 @ 5%
 - Amosorb SOLO₂-2 @ 7%
- More Use Levels will be set-up in the future



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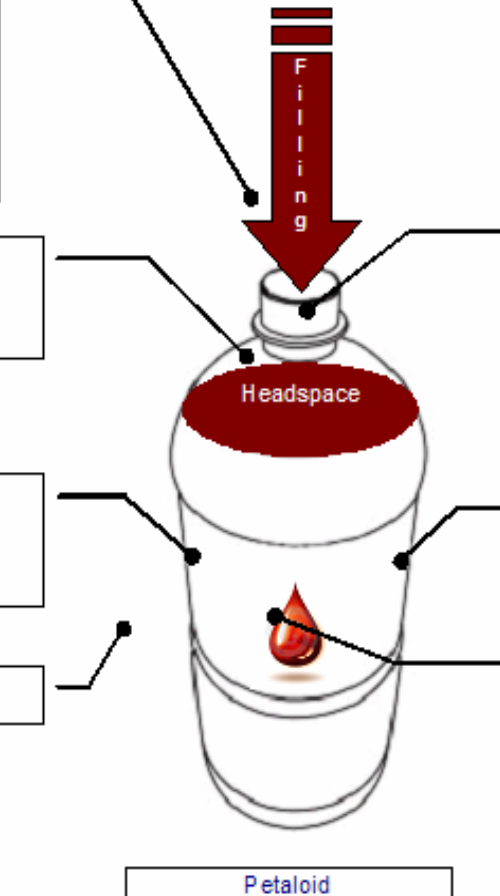
Amosorb SOLO₂ Model Set-Up

Filling temp:	3 deg C
Time at fill temp:	1.000 hours
Relative Humidity at fill:	50 %
Storage time:	0.010 days
Storage temp:	18 deg C
Relative Humidity in storage:	50 %
Beverage degassed of O ₂ :	True, 97%

Nominal liquid volume:	1000.000 mL
Brimfull capacity:	1020.000 mL
Headspace degassed of O ₂ :	True, 97%

Surface area:	60000.000 sq mm
Empty package weight:	35.000 grams
Sidewall thickness:	0.321mm

Temperatures, time and RH:	18 deg C, 180 days, 50%
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Amosorb Bottle Model

Generic 1L Beer

Closure type option:	Closure impemeable
Finish design:	28 mm PCO
Cap thickness:	1.270 mm
Total closure weight:	2.500 grams
Surface area:	371.300 sq mm

Material (inner to outer layer): Eastman 9921/

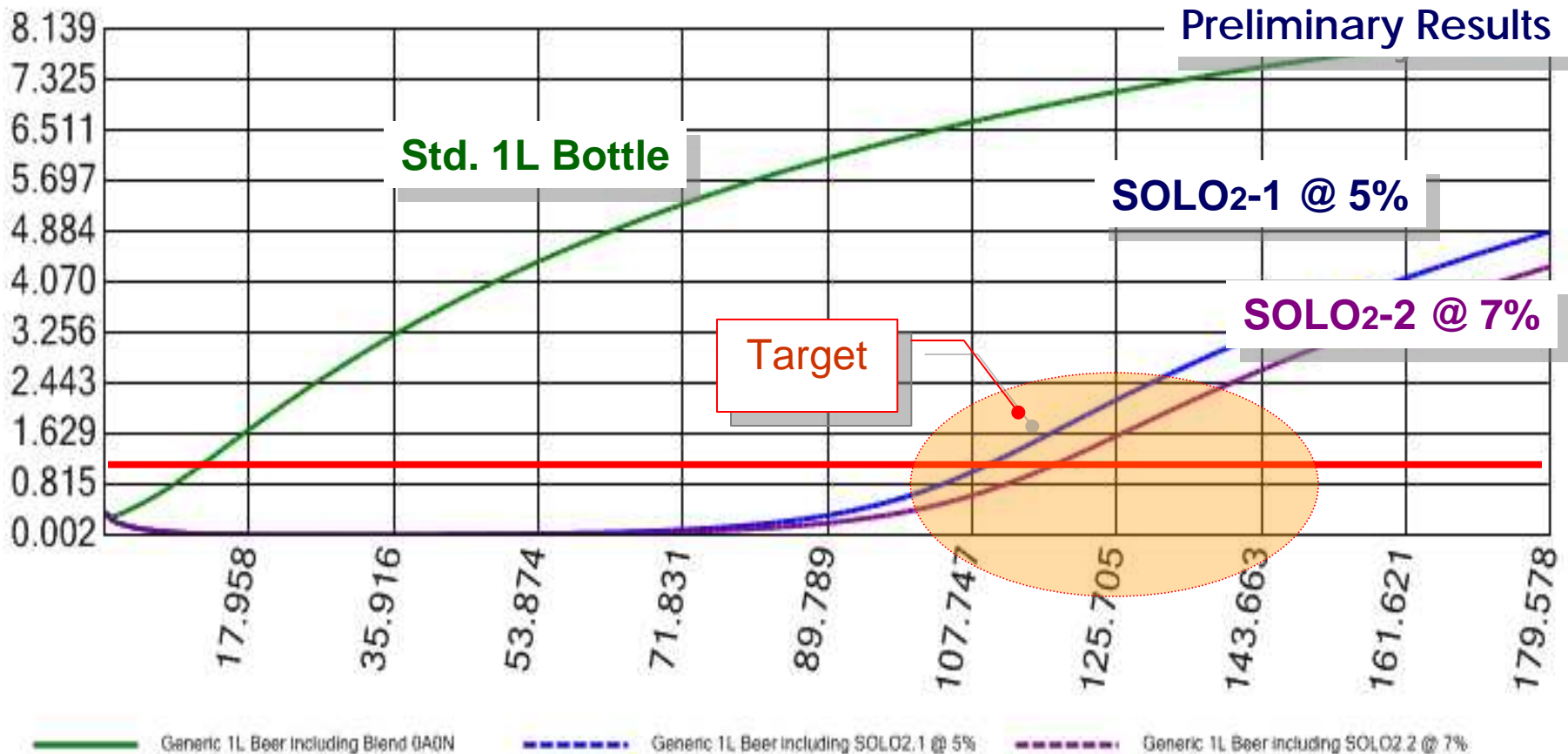
Initial carbonation level:	6.600 grams/L
Initial vitamin C level:	0.000 mg/L
Beverage sugar content:	0.000 grams/L
Oxygen content spec:	1.000 w/v ppm
Upper carbonation spec:	6.000 grams/L
Lower carbonation spec:	5.400 grams/L
Lower vitamin C spec:	0.000 mg/L

Bottle Design For Illustration Purposes Only.



Amosorb SOLO₂ Modelling: 1L

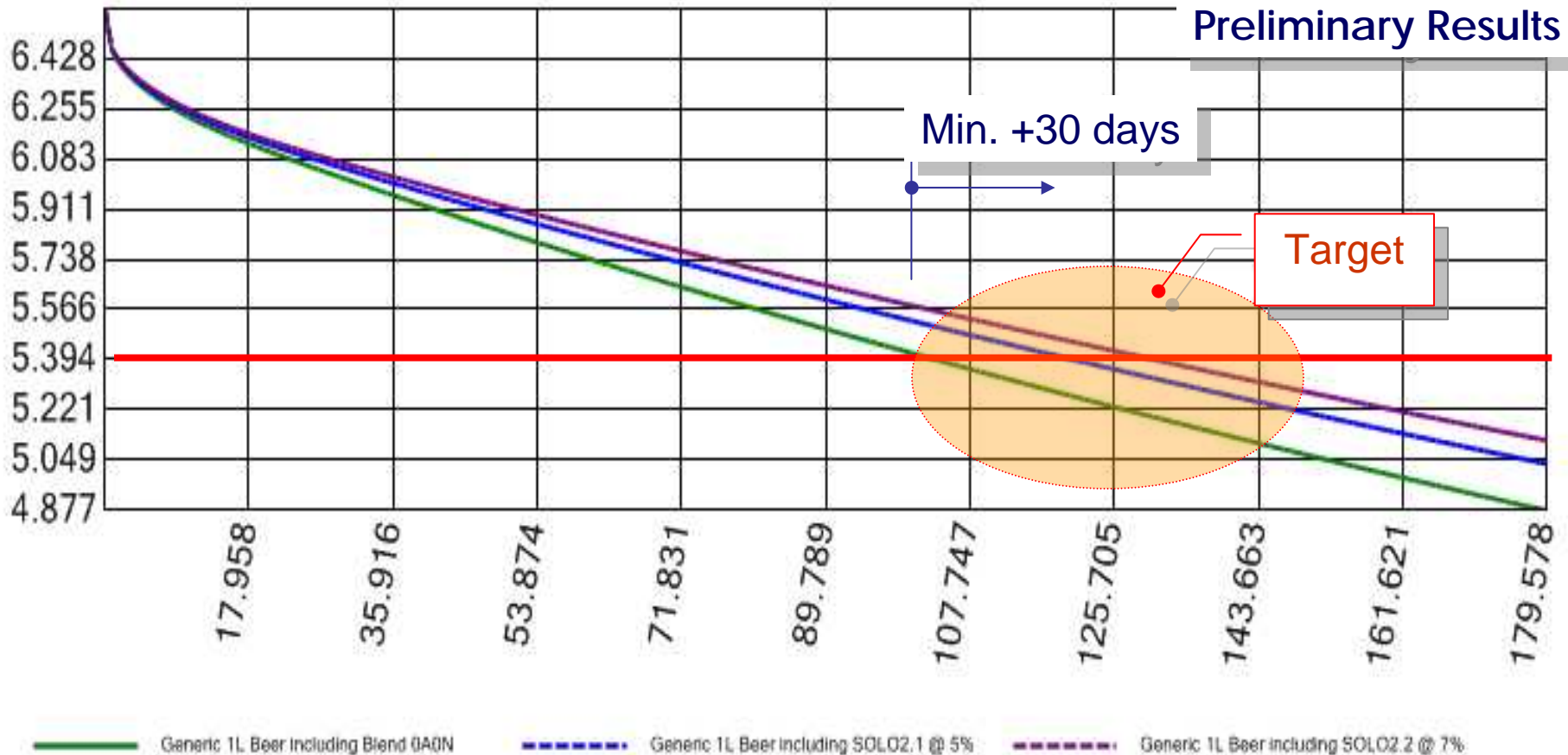
Beverage O₂ Concentration Vs. Time: Beverage O₂ Concentration in w/v ppm and Time in days





Modelling: 1L

CO₂ Loss Over Time: CO₂ Concentration in grams/L and Time in days



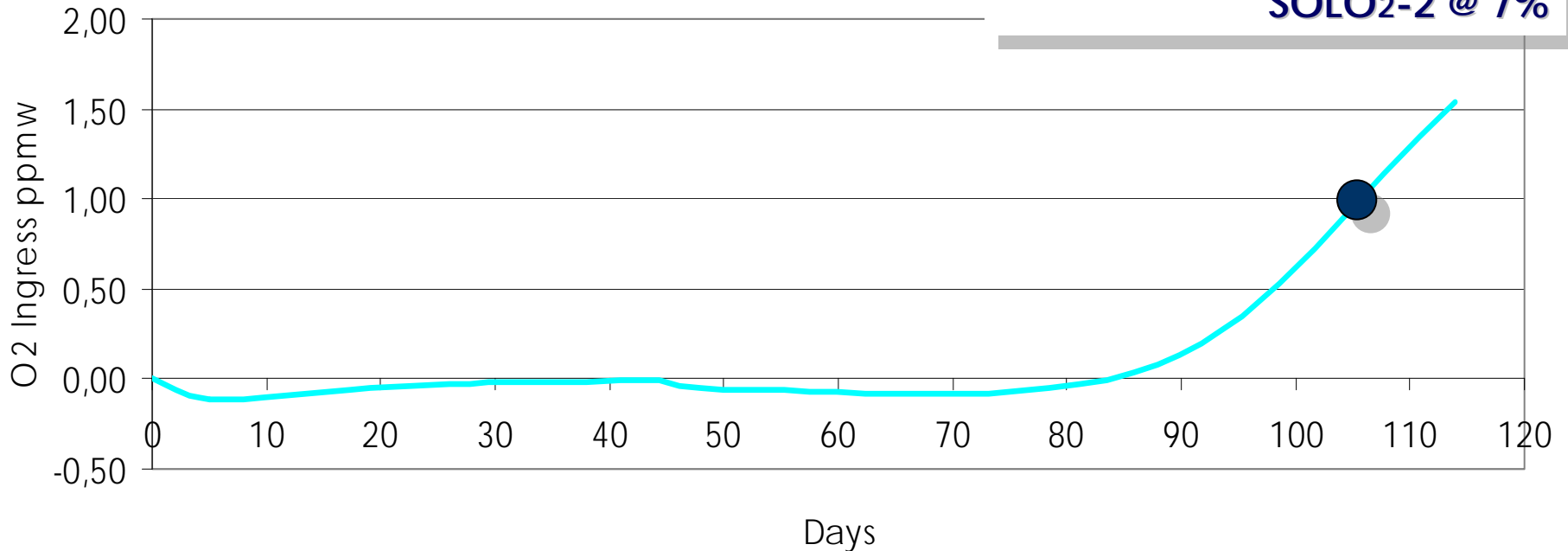


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Amosorb SOLO₂

O₂ Ingress: 1L

1L Green ColorMatrix Bottle
SOLO₂-2 @ 7%



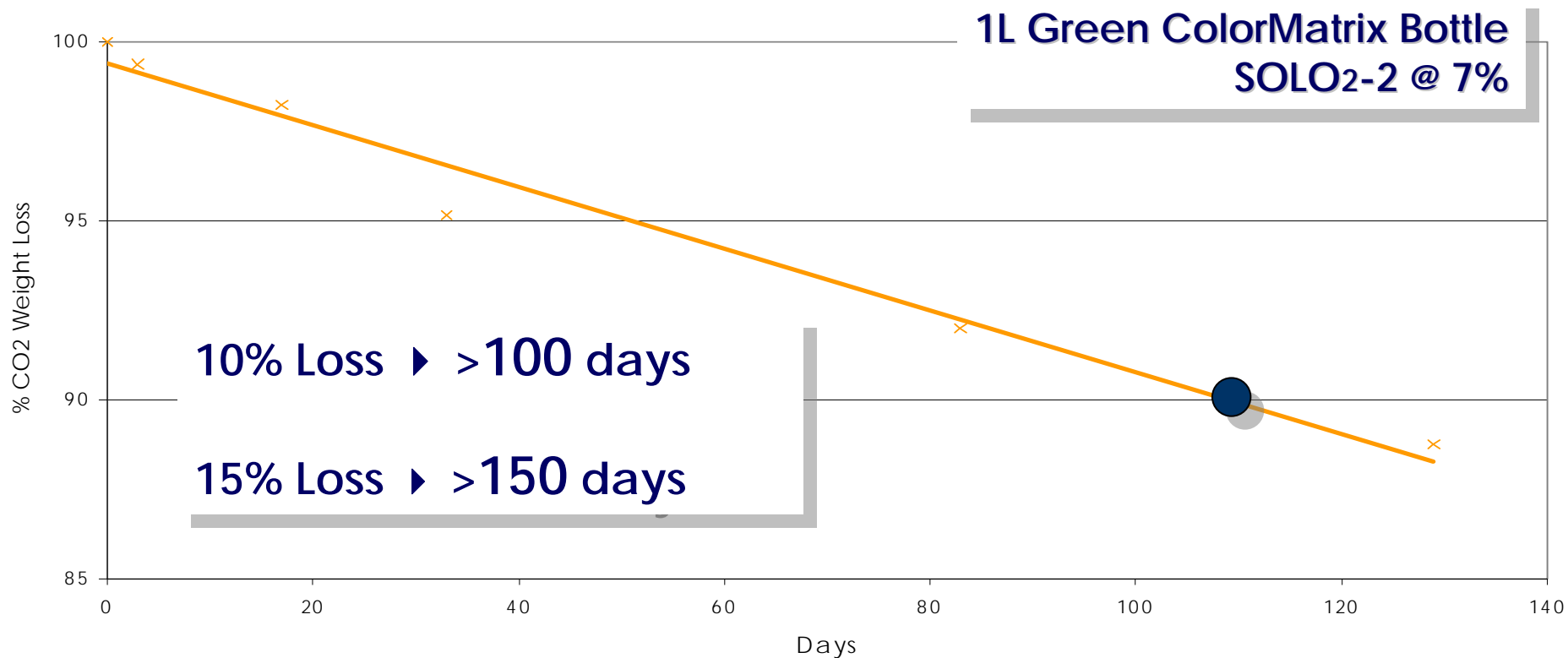
PET C93 + SOLO 2.2 @ 7% + 'Shamrock Green-5' @ 0.25%



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Amosorb SOLO₂

CO₂ Loss: 1L



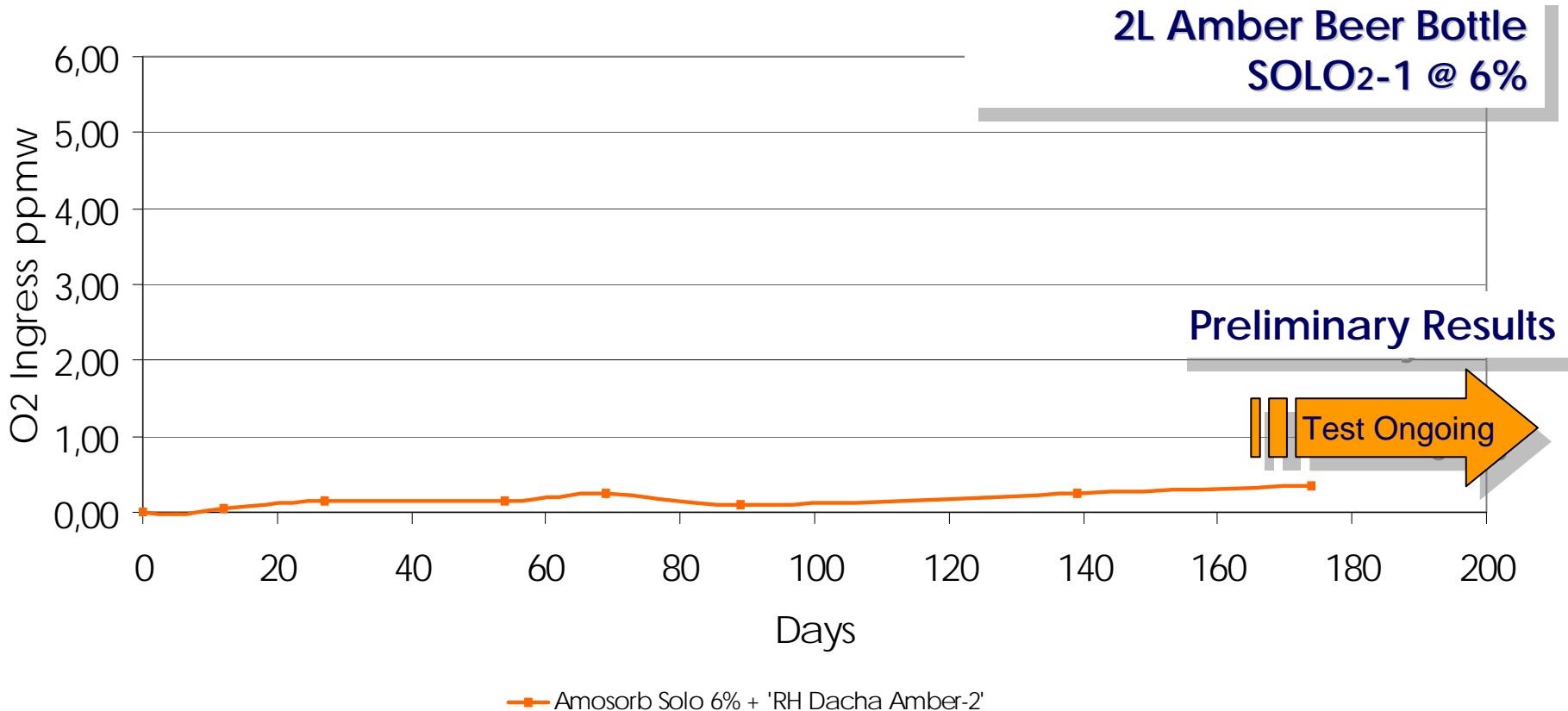
— Linear (PET C93 + Solo 2.2 @ 7% + 'Shamrock Green-5' @ 0.15%)



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Amosorb SOLO₂

O₂ Ingress: 2L

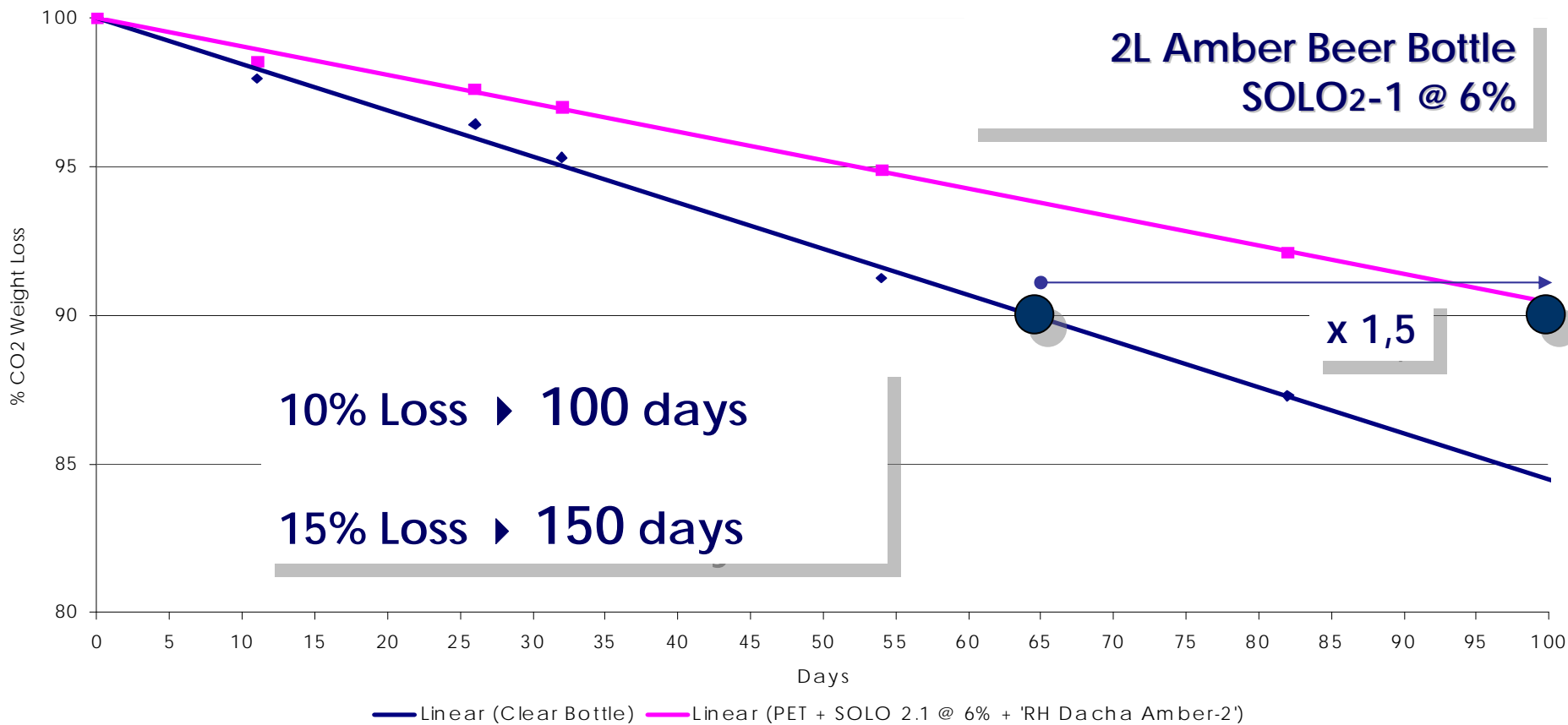




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Amosorb SOLO₂

CO₂ Loss: 2L





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