

**CO<sub>2</sub>Sustain<sup>®</sup>**

# Making Energy Drinks Fizzier For Longer with CO<sub>2</sub>Sustain

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# Objective

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- To maintain the fizziness of generic energy drinks (full sugar and zero sugar) by using CO<sub>2</sub>Sustain<sup>®</sup>
- To make these energy drinks fizzier for longer to give a better consumer drink experience



# Sample Preparation

- Samples comprising of 250ml full sugar energy drink and a zero sugar energy drink were re-carbonated on an Armfield Carbonator to 4.8g/l
- One bottle of each variety was dosed with CO<sub>2</sub>Sustain<sup>®</sup> (Sample A full sugar and Sample B zero sugar) and one for each sugar variety had no CO<sub>2</sub>Sustain<sup>®</sup> in it (Sample C).



1

A sensory panel of 8 participants completed a blind taste test asked whether the **Sustain sample (A full sugar)** was:

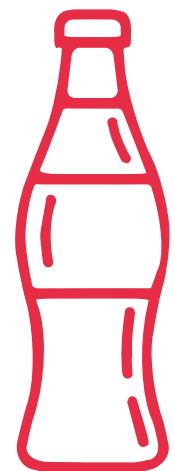
- A. Less fizzy than sample C (blank full sugar)
- B. Fizzier than sample C
- C. No difference

2

The panel then completed a blind taste test where the participants were asked whether the **Sustain sample (B zero sugar)** was:

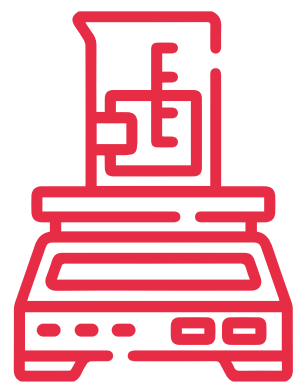
- A. Less fizzy than sample C (blank full sugar)
- B. Fizzier than sample C
- C. No difference

3



Further bottles of **Sample A (full sugar)** and **Sample B (zero sugar)** and **Samples C (blank)** (*one blank for each sugar type*) were opened, placed on a set of scales which are set to zero. They were all weight measured to find out initial CO<sub>2</sub> loss.

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The bottles were then placed on an orbital shaker for 5 mins. At 5-minute intervals the bottles were again placed on the scales and weighed.

This happens for a total period of 30 minutes. The purpose of this is to replica the drink's movement in someone's hand/or if it's in a car in a car's cupholder.

The results are then plotted on to a graph.

# Sensory Experience

## Sample A - Full Sugar

## Sample B - Zero Sugar

8

All 8 people recorded the sample with CO<sub>2</sub>Sustain<sup>®</sup> as **being fizzier\***

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8

0

None of the panel recorded no difference

None of the panel recorded no difference

0



*\*than sample C (blank)*

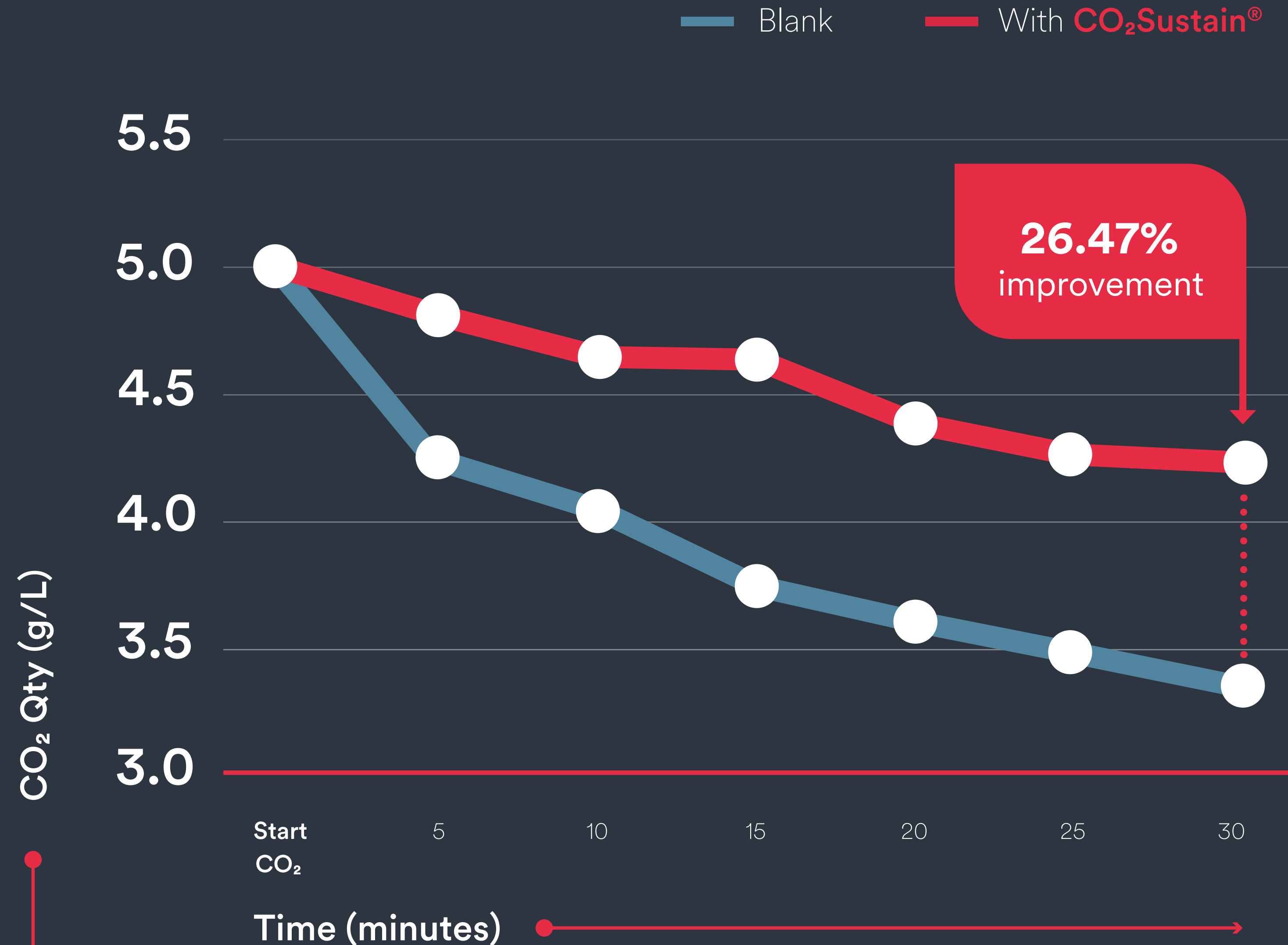
## Results

The initial weight on opening and measuring of both Samples A was 4.8g/l blank Sample C was 4.3g/l a **11.63% improvement**.

After 30-minutes the full sugar energy drink with **CO<sub>2</sub>Sustain®** in (Sample A) retained 4.3g/l whereas the blank (Sample C) only retained 3.4g/l.

Therefore, Sample A retained **26.47% more CO<sub>2</sub>** than the blank (Sample C) over a 30-minute period.

# Sample A - Full Sugar



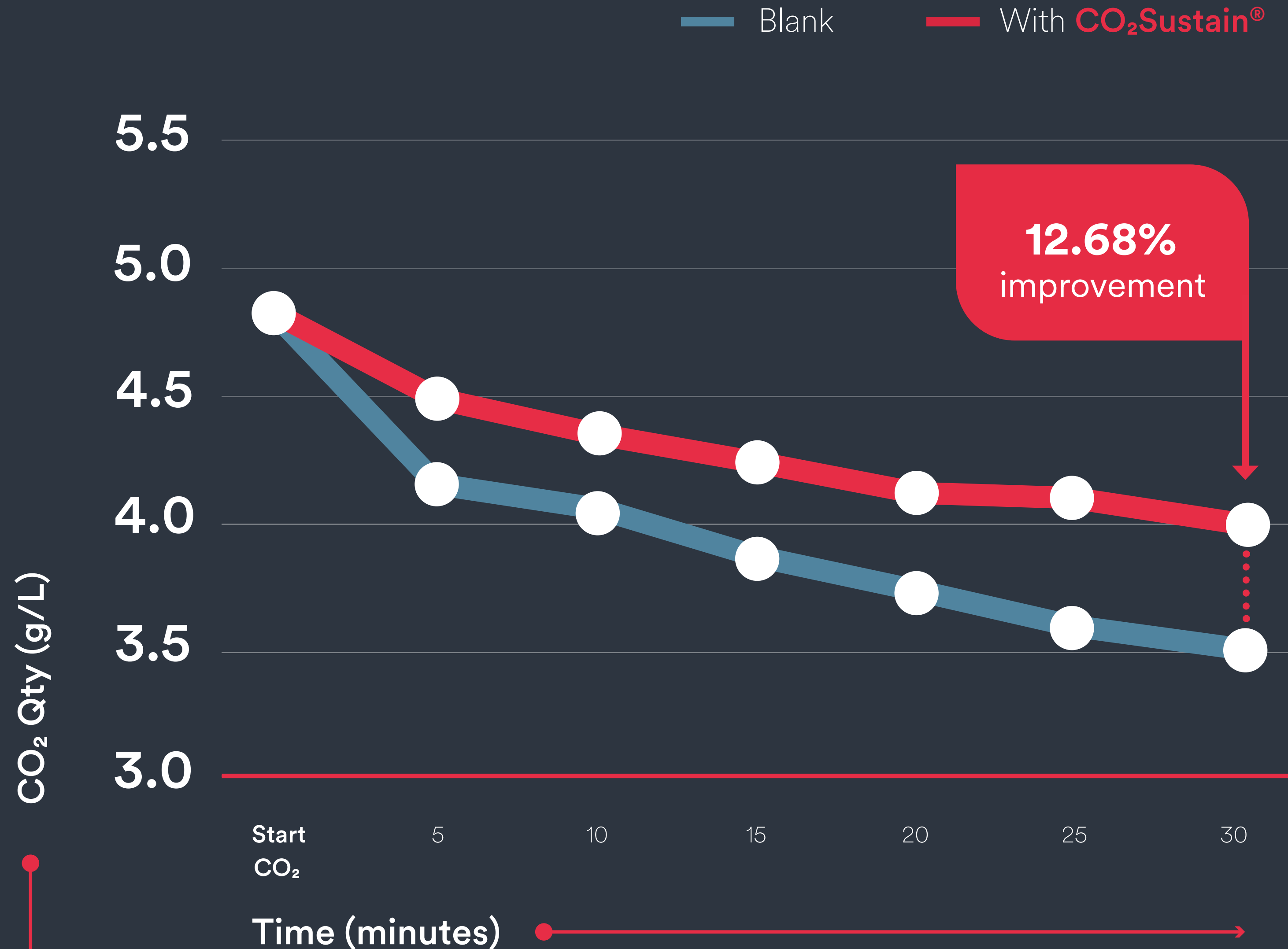
## Results

The initial weight on opening and measuring of both Samples B was 4.5g/l whereas the blank Sample C was 4.25g/l a **5.88% improvement**.

After 30-minutes the Zero Sugar Energy drink with **CO<sub>2</sub>Sustain<sup>®</sup>** in (Sample B) retained 4.0g/l whereas the blank (Sample C) only retained 3.55g/l.

Therefore, Sample B retained **12.68% more CO<sub>2</sub>** than the blank (Sample C) over a 30-minute period.

# Sample B - Zero Sugar





# Our Conclusion

## Energy Drink Carbonation Test

The addition of **CO<sub>2</sub>Sustain<sup>®</sup>** gives both full sugar and zero sugar energy drinks more carbonation over a 30-minute period, thus giving consumers a fizzier drink experience throughout the drinking window.

The addition of **CO<sub>2</sub>Sustain<sup>®</sup>** will give an energy drink brand/manufacturer a further competitive advantage in the energy drink market.





# Thank you.

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