

## TSI Reactions

Acid reaction (A) = yellow color

Alkaline reaction (K) = red color

Hydrogen Sulfide production (H<sub>2</sub>S) = black color or precipitate

Gas production (G) = bubbles, cracks, or media displacement

Reactions (slant/butt)	Symbol	Interpretation
Yellow/Yellow	A/A	Glucose in addition to lactose and/or sucrose
Yellow/Yellow with gas production	A/A, G	Glucose in addition to lactose and/or sucrose, gas produced
Yellow/Yellow with black precipitate	A/A, H <sub>2</sub> S	Glucose in addition to lactose and/or sucrose, hydrogen sulfide produced
Red/Yellow	K/A	Glucose fermentation only
Red/Yellow with gas production	K/A, G	Glucose fermentation only, gas produced
Red/Yellow with black precipitate	K/A, H <sub>2</sub> S	Glucose fermentation only, hydrogen sulfide produced
Red/Yellow with gas production and black precipitate	K/A, G, H <sub>2</sub> S	Glucose fermentation only, gas produced, hydrogen sulfide produced
Red/Red	K/K	No carbohydrate fermentation (non-fermenter)

