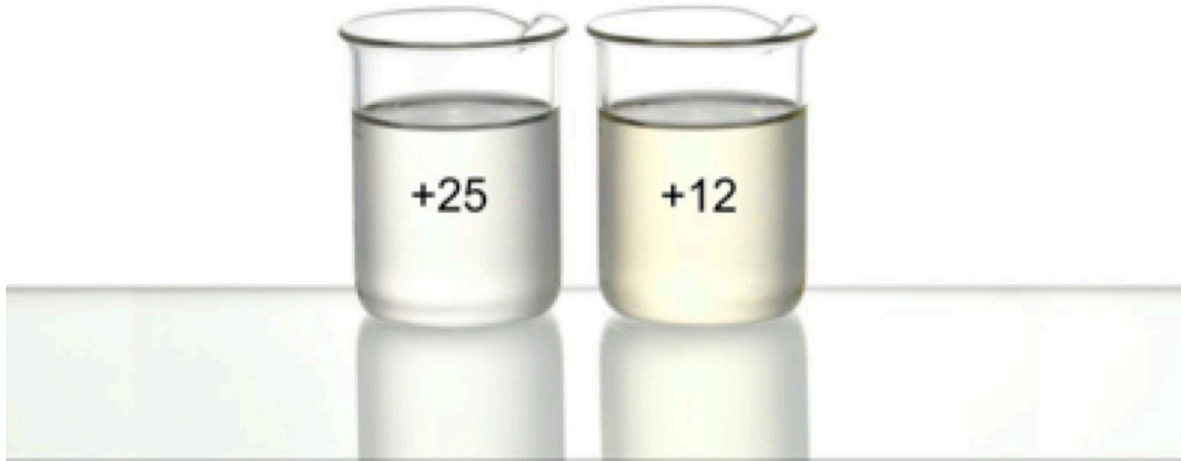


# Saybolt color scale ASTM D 156



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### **Key Facts: Saybolt color scale (ASTM D 156)**

- ▶ +30 to -16 Saybolt color scale (ASTM D 156)
- ▶ Color of refined petroleum products
- ▶ Real time continuous measurement
- ▶ Zero maintenance
- ▶ High temperature operation - up to 275°C
- ▶ High pressure operation
- ▶ For use in zone 1 hazardous areas (EExD)



We reserve the right to make changes without previous notice.

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### **Saybolt color scale (ASTM D 156) - Application Note**

The ASTM D 156 Saybolt color scale is used in the petrochemical and pharmaceutical industries to grade the yellowness of pale liquid products and to monitor product contamination. The Saybolt color scale is applicable to a wide range of petroleum products, such as undyed motor and aviation gasoline, jet propulsion fuels, naphthas and kerosene, in addition to petroleum waxes and pharmaceutical white oils.

The Saybolt color scale traditionally relies upon matching a standard colored disc viewed through an adjustable volume of sample. This one dimensional color scale is prone to operator bias and error due to slight variations in the way different operators will perceive color. In essence, color is simply how our brains respond to different wavelengths of light and such a process can be standardized and automated using a Kemtrak DCP007 photometer.

### **Saybolt color scale (ASTM D 156) - Application**

The Saybolt color scale is accurately measured using a Kemtrak DCP007 process photometer. The Kemtrak DCP007 utilizes a long life LED light source, precision optical filters and robust industrial grade fiber optics to provide a Saybolt color analyzer with outstanding performance and reliability. A proprietary dual wavelength four channel measurement technology ensures precise trace color measurement. A primary "absorbing" wavelength approximates the perception of the human eye, while a secondary reference NIR wavelength not influenced by the sample color is used to compensate for turbidity and/or fouling of the optical windows. Since optic fibers are used to pipe light to the measurement point and back, the measurement cell contains no electronics, moving parts or sources of heat and is well suited for hazardous and extreme environments.

### **Saybolt color scale (ASTM D 156) - Installation**

A colorless solution has a Saybolt color value of +30, corresponding to the maximum distance one could see a standard colored disc viewed though a volume of sample. The strongest measureable Saybolt color value is -16.

The instrument should be configured for the desired measurement range for maximum resolution and accuracy. The measurement range must be specified at time of ordering as it will influence the optical measurement path length and measurement wavelength required. For applications where sample contamination is being monitored, the Saybolt color scale range often selected is +30 (colorless) to +10 Saybolt color units using a long measurement optical path length (typically 10cm or longer) and a two point factory calibration. The measurement cell can be installed in various process environments with a continuous maximum process and ambient temperature rating of 275°C. NIST-traceable validation filters are available to verify analyzer performance without process interruption.

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