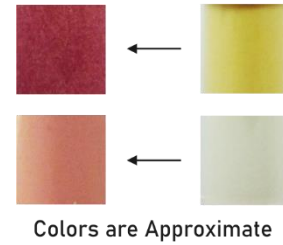


CHEMTEQ[®]

Filters Breakthrough Indicator (BTI AFT) Aromatic Diisocyanates and Organic Vapors (PN: 657)

Manual



Colors are Approximate

CHEMTEQ[®]

600 West 24th Street, Suite B
Norfolk, Virginia 23517, USA

Tel: 757-622-2223

Toll-free: 855-CHEMTEQ (855-243-6837)

sales@chemteq.net



1. Application

The Aromatic Diisocyanates and Organic Vapors BTI AFT (PN: 657) is qualitative (yes/no) colorimetric indicator for real-time indication of aromatic diisocyanates and organic vapors. The indicator is equipped with auxiliary filter trap to ensure no aromatic diisocyanates and organic vapors escape to the outside environment while the indicator changing color. The indicator is designed to provide real-time indication of the breakthrough of aromatic diisocyanates and organic vapors. Organic vapors, including:

1. Acetone, 2. Acetonitrile, 3. Acids (i.e. Acetic acid, Hydrochloric acid, Trifluoroacetic acid Trichloroacetic Acid), 4. Acrylonitrile, 5. Aliphatic hydrocarbons (i.e. hexane), 6. Aromatic Hydrocarbons (i.e. benzene, toluene and xylenes), 7. Chlorinated hydrocarbons (i.e. carbon tetrachloride, chloroform and dichloromethane (methylene chloride)), 8. Ethanol, 9. Ethyl Acetate, 10. Ethyl acrylate, 11. Ethyl ether, 12. Gasoline, 13. HFIP (Hexafluoroisopropanol), 14. Methanol, 15 Methyl acrylate, 16. Naphtha, 17. Phenol, 18. Sulfolane, 19. THF (Tetrahydrofuran). This indicator cannot detect basic organic compounds such as pyridines, aliphatic and aromatic amines. Please contact us for alternative indicator for detecting basic organic compounds.

2. Specifications

2.1. Overall Specifications

- a. Weight: 118g (4.2oz)
- b. Dimensions:
 - Breakthrough indicator (Part A): 89.9mm (3.5in), diameter 24.5mm (1.0in)
 - Auxiliary filter trap (Part B): 41mm (1.6in), diameter 81mm (3.2in)
- c. Inlet dimensions: ½" MNPT
- d. Operating temperature: -20°C to 50°C (-4°F to 122°F)
- e. Operating humidity: 5% RH to 95%RH
- f. Minimum detectable limit: Aromatic Diisocyanates: 4ppb-hr at 30 cm/sec face velocity
Organic Vapors: See table below
- g. Color change: Aromatic Diisocyanates: off white to brownish pink
Organic Vapors: Orange to red
- h. Storage temperature: 4°C to 25°C, (39°F to 77°F)
- i. Shelf life: 1 year at 4°C to 25°C, (39°F to 77°F)
- j. Service life: 1 year

2.2. Organic Vapors Performance Specification

To determine the sensitivity of the breakthrough indicator, a solution/mixture of 10% solvent in water was bubbled with ambient air at a flow rate of 5cc/min. The airflow passed through the breakthrough indicator until a color change was observed. The elapsed time to observe the first noticeable and the final colors for the respective organic solvent is depicted in the table below.

3. Operating Instructions

- a. Ensure that packaging pouch is intact.
- b. Open packaging pouch by tearing off the top part from one of side notches.
- c. Remove the Breakthrough Indicator from the packaging pouch.
- d. Remove the ½" threaded plug from the carbon absorber outlet lid.
- e. Remove the protective red plug to activate the breakthrough indicator.
- f. Thread the Breakthrough Indicator into the ½" threaded carbon absorber outlet lid.



Caution: Only hand tighten indicator into carbon absorber

- g. Replace carbon absorber when the Breakthrough Indicator changes color to red.
- h.

Solvent (10% in Water)	Breakthrough Indication Time	
	First Noticeable Color (min)	Final Color (min)
Acetone	10	30
Acetonitrile	10	30
Benzene	4	43
Carbon tetrachloride	10	30
Chloroform	2	8
Dichloromethane (methylene chloride))	2	8
Ethanol	10	30
Ethyl Acetate	2	5
Gasoline	14	60
Hexane	10	30
HFIP Hexafluoroisopropanol	1	4
Methanol	2	5
Naphtha	10	30
Phenol	45	6 hours
Sulfolane	8	17
THF (Tetrahydrofuran)	10	20
Toluene	2	8
Trifluoroacetic acid	4	30
Xylenes	14	60

Organic Vapors Indicator Color Change (Top Indicator)
Colors are approximate.

Unexposed



Exposed
Aliphatic
hydrocarbons
& alcohols



Other organic
vapors