

Total Organic Vapors (TOV) Indicator

Total organic vapors include:

Acetone, Acetonitrile, Acids (i.e. acetic acid, hydrochloric acid, trifluoroacetic acid trichloroacetic acid), Acrylonitrile, Aliphatic amines (i.e. methyl amine), Aliphatic hydrocarbons (i.e. hexane), Aromatic hydrocarbons (i.e. benzene, toluene and xylenes), Chlorinated hydrocarbons (i.e. carbon tetrachloride, chloroform and dichloromethane (methylene chloride), Ethanol, Ethyl acetate, Ethyl acrylate, Ethyl ether, Gasoline, HFIP (hexafluoroisopropanol), Methanol, Methyl acrylate, Naphtha, Phenol, Pyridine, Sulfolane, THF (Tetrahydrofuran).

Performance Specification

To determine the sensitivity of the TOV indicator, a solution/mixture of 10% solvent in water was bubbled with ambient air at a flow rate of 5cc/min. The airflow was 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.

Limitations

The indicator does not respond to gaseous aliphatic hydrocarbons (i.e. methane, ethane, propane and butane), aldehydes (i.e. formaldehyde). No other interferences or limitations are known.

Solvent (10% in Water)	Breakthrough Indication Time	
	First Noticeable Color (min)	Final Color (min)
Acetone	10	10
Acetonitrile	10	30
Benzene	2	5
Carbon tetrachloride	10	30
Chloroform	12	30
Dichloromethane (methylene chloride)	5	15
Ethanol	10	30
Ethyl Acetate	2	5
Gasoline	14	60
Hexane	7	15
HFIP (Hexafluoroisopropanol)	1	4
Methanol	2	5
Methyl acrylate	4	36
Methyl amine	2	12
Naphtha	10	30
Phenol	20	6 hours
Pyridine	10	30
Sulfolane	8	17
THF (tetrahydrofuran)	10	20
Toluene	2	8
Trifluoroacetic acid	4	30
Xylenes	14	60

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