TraceTek Chemical Sensing Reference List
Updated: 2/10/2015

This list provides guidance on which TraceTek sensing cables will be able to detect (or not) a particular fluid. The fluids named in this list have not all been specifically tested to determine detectability. Some have been evaluated based only on thier chemical makeup and the known cable responses to that family of chemicals. Where response times have been provided, those times are a typical value. They are the result of casual lab tests on single samples. not multi-lot testing under rigorously controlled conditions. Therefore, they are for reference only and not to be advertised or stated as guaranteed response times. Since formulations, particularly of fuels, and concentrations vary significanly, it is always recommended that cusotmers test thier particular chemical or fluid to determine whether the sensing cable response time meets the need of their specific applicaiton.

Group	Chemical	TT3000	TT5000	TT5001	TT7000	FFS	Notes
Unclassified	Acrylonitrile		Yes				
Unclassified	Glacial (conc.) Acetic Acid			Yes			
Unclassified	Phosphoric Acid	Yes					
Unclassified	Ammonia Water	Yes					
Unclassified	Ethyl Chloride		Yes				
Unclassified	Acetic Anhydride			Yes			
Unclassified	BELL GREEN 2 COAT URETHANE MINERAL OIL		Yes				The response time would be several hours @ 20C but would only require 20 ml of fluid contact. We can provide cable samples if the customer would like to confirm response time.
Unclassified	Formalin			Yes			Formalin is 37% Formaldehyde and 7% Methyl Alcohol.
Unclassified	Xylene		Yes				TT5001 could also be used but Rob recommends the TT5000 as the preferred solution.
Unclassified	Styrene		Yes				
Unclassified	2-Ethylhexanoyl chloride	Yes					Corrosive liquid, insoluble in water
Unclassified	Isobutyroyl chloride	Yes					Liquid, miscible with ether
Unclassified	Isononanoyl chloride	Yes					Corrosive liquid, decomposes in water

Group	Chemical	TT3000	TT5000	TT5001	TT7000	FFS	Notes
Unclassified	Neo-Decanoyl chloride	Yes					Corrosive liquid, soluble in acetone
Unclassified	Neo-heptanoyl chloride	Yes					Crystalline solid
Unclassified	Octanoyl chloride	Yes					Liquid, miscible with most common solvents
Unclassified	Pivaloyl chloride	Yes					Corrosive liquid, decomposes in water
Unclassified	Methanol floating on water					No	Testing with pure Methanol showed no repsonse for the FFS.
Unclassified	Hexane		Yes				TT5000 is prefered over the TT5001 as it will react faster and more reliably to the presence of any "ane" compounds.
Unclassified	Hydrocloric acid						None: HCL in any concentration is not sufficient to activate the TT7000 cables.
Unclassified	Phenol			Yes			Detects in the 20 minute range at room temp.
Unclassified	Ethyl Alcohol			Yes			This is Ethanol
Unclassified	Ureum ("Ad Bleu")	Yes					Ad Bleu is a French term. The specification from ACHEMA indicates that UREUM is ~32% Urea in a water based solution. If this is 60+ % water, we can use TT3000 to detect it.
Acid	Acetic Acid 25%/CH3CO-OH	Yes			Yes		
Acid	Acetic Acid 50%~99.4% / CH3COOH	Yes			Yes		
Acid	Ferric Chloride / FeCl3	Yes					
Acid	Hydroflouric Acid 49% / HF	Yes					

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Acid	Nitric Acid 15~65% / HNO3	Yes			Yes		
Acid	Sulfuric Acid 25~98% / H2SO4	Yes			Yes		
Alcohol	Ethanol (95% in H2O) / CH3-CH2-OH	Yes		60 Min			
Alcohol	Ethanol (100% / CH3-CH2-OH			60 Min		Unclear	aka Ethyl Alcohol; fit for human consumption, not likely to be considered an environmental hazard Not tested directly for the FFS. Chemically Ethnaol sits in between IPA and Methanol so not sure if the FFS will alarm on it.
Alcohol	Isopropanol	Yes		90 Min			
Alcohol	Isopropal Alcohol (IPA) / (CH3)2 CHOH			90 Min		Yes	FFS responds to IPA in under 5 minutes.
Alcohol	Methanol (100%) / CH4O			45 Min		No	a.k.a. wood spirit, wood alcohol, methyl alcohol FFS tested with 100% Methanol did not create an alarm, even after several minutes of exposure.
Alcohol	Methanol (up to 95% in H2O)	Yes					Up to 150 mm of TT3000 must be wetted for detection at 95% concentration. Sensitivity increases (less cable must be wet) for lower concentrations.
Caustic	Sodium hydroxide (concentrated) /NaOH	Yes					Also known as Caustic Soda
Caustic	Sodium Hypochlorite / NaOCl	Yes					
Caustic	tetramethylammonium hydroxide (TMAH) / (CH3) 4NOH	Yes					
Fuel	Diesel #1		60 Min			Yes	
Fuel	Diesel #2		120 Min			Yes	
Fuel	Fuel Oil #6		*			Yes	* no response @ 20 C, 41~64 hrs @ 40 C, 9~11 hrs @ 60 C
Fuel	Gasoline		9~20 Min*	48 Min		Yes	* depends on grade and type of gasoline
Fuel	Gasoline Vapor		3 Days	5 Days		Yes	
Fuel	Jet A		50 Min	4~11 Hrs		Yes	

Fuel	Jet B		Yes	Yes		Yes	
Fuel	JP-10		40 Min			Yes	
Fuel	JP-4		15 Min	<5 Hrs		Yes	

Group	Chemical	TT3000	TT5000	TT5001	TT7000	FFS	Notes
Fuel	JP-5		70 Min	<4 Hrs		Yes	
Fuel	JP-7		25 Min	10 Hrs		Yes	
Fuel	Kerosene		47 Min			Yes	
Fuel	Light Sweet Crude		3 Hrs			Yes	
Lubricant	Automotive Transmission Fluid		4~8 Hrs				Dextron II brand ~8.3 hrs Ford brand 4.1 hrs Response time may vary considerably by brand and type.
Lubricant	Brake Fluid			~30 Hrs*			
Lubricant	Hydraulic Oil		3-8 Days*				* depends on type
Lubricant	SAE 20 Motor Oil		<1 Day				
Lubricant	SAE 30 Motor Oil		2 Days				
Other	Aliphatic hydrocarbon (generic)		Varies				Fuels and oils are typically aliphatic (long chain) HC's, with some aromatics blended in. Length of chain translates into viscosity (longer = heavier) and hence into longer response times.
Other	Ammonium Hydroxide NH4OH	Yes					Must be in solution; will not detect dry form
Other	Anisole	Yes	1.7Hrs	33 Min			
Other	Carbon DiSulfide			3 Min			
Other	Chloroform		12 Min	10 Min			
Other	DimethylFormamide	Yes		2 Hrs			
Other	Dowtherm A		10 Hrs	90 Min			Dowtherm A = diphenyl oxide / biphenyl blend Dowtherm J = alkylated aromatic
Other	Ethyle Acetate			20 Min			
Other	Ethylene Glycol	Yes					
Other	Formaldehyde						See Formalin. Formaldehyde is a gas at room temperature. (Boiling Point -21C) When it is dissolved in water (remember the frogs in your biology class) it is called formalin. Usually the commercial concentration is 40% in H2O.
Other	Formalin	Yes					This is the typical liquid form of Formaldehyde (dissolved in H2O, typically 40% solution).
Other	Freon TF		22 Min	42 Min			

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Other	Gum Turpentine		10 Min	20 Min			
Other	Heptane		10 Min	60 Min		Yes	
Other	Hydrogen Pereoxide / H2O2	Yes					pure form behaves much like de-ionized water and is hard to detect
Other	Mineral Spirits		20 Min				
Other	Mobiltherm 603		<9 Hrs	<4 Hrs			
Other	Naphtha		15 Min			Yes	
Other	PCB		<9 Hrs				
Other	Polyurethane (PUR)						In monomer form, may be detectable by TT500x (this has not been tested)
Other	Prestone Antifreeze	Yes					
Other	Shell Diala X Transformer Oil		13 Hrs				Transformer oils vary considerably.
Other	Styrene Monomer		20 Min	8 Min			
Other	Tetrahydrothiophene		25 Min	27 Min			
Solvents	50/50 methylene chloride /methanol			<10 Min			Blend of methylene chloride and methanol
Solvents	Acetone			10 Min		Yes	Will detect only when immersed in the fluid. Will not detect small amounts or thin films floating on or mixed with other fluids.
Solvents	Acetone (30% in H2O)	Yes					
Solvents	Acetone (50% in H2O)	Yes		80 Min			
Solvents	Butyl Acetate			20 Min			
Solvents	Carbon Tetrachloride		20 Min	20 Min			
Solvents	Chorobenzine		21 Min	10 Min			
Solvents	Cyclohexane			32 Min			
Solvents	Dichlolromthane		13 Min	5 Min			
Solvents	Ethyl Benzine		Yes				
Solvents	Methyl Ethyle Ketone (MEK)			10 Min			Avoid exposure to TT1000 or TT3000
Solvents	Methylene Chloride			~5 Min			
Solvents	N-Methyl Pyrrolodone			60 Min			Will damage TT3000 / TT1000 (dissolves kynar)
Solvents	Toluene		18 Min	10 Min		Yes	

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Solvents	Trichlorothane			20 Min			
Solvents	Thrichloroetherylene			8 Min			
Solvents	Xylene		20 Min	35 Min		Yes	