

**INFRARED SENSORS TYPE MSH -HC
RESPONSE TO GROUP A, B AND C GASSES**

The following lists of gasses have been extracted from the European Standard EN 60079-20-1 and indicate the expected response of a sensor type MSH-HC for each of the gas types.

Key
 ✓ = Good response **W** = Weak response **X** = No response **?** = Unknown response

Subdivision A			
1.Hydrocarbons	Response		Response
<i>Alkanes</i>		<i>Mixed hydrocarbons</i>	
Methane	✓	Methane (industrial)	✓
Ethane	✓	Turpentine	?
Propane	✓	Petroleum naphtha	✓
Butane	✓	Coal tar naphtha	✓
Pentane	✓	Petroleum (including motor spirit)	✓
Hexane	✓	Solvent or cleaning petroleum	✓
Heptane	✓	Heating oil	W
Octane	✓	Kerosene	✓
Nonane	W	Diesel oil	✓
Decane	✓	Motor benzole	✓
Cyclobutane	✓		
Cyclopentane	✓	<i>Aromatic hydrocarbons</i>	
Cyclohexane	✓	Styrene	✓
Cycloheptane	✓	Isopropenylbenzene (methyl styrene)	✓
Methylcyclobutane	✓		
Methylcyclopentane	✓	<i>Benzenoids</i>	
Methylcyclohexane	✓	benzene	✓
Ethylcyclobutane	✓	Toluene	✓
Ethylcyclopentane	✓	Xylene	✓
Ethylcyclohexane	✓	Ethyl benzene	✓
Decahydronaphthalene	✓	Trimethyl benzene	✓
		Naphthalene	✓
<i>Alkenes</i>		Cumene	✓
Propane (Propylene)	✓	Cymene	✓

2.Compounds containing oxygen			
	Response		Response
<i>Oxides (including ethers)</i>		Aldehydes	
Carbon monoxide	X	Acetaldehyde	W
Dipropyl ether	√	Metlaldehyde	√
<i>Alcohols and phenols</i>		<i>Ketones</i>	
Methanol	W	Acetone	√
Ethanol	√	Butanone (ethyl methyl ketone)	√
Propanol	√	Pentan-2-one (propyl methyl ketone)	√
Butanol	√	Hexan-2-one (butyl methyl ketone)	√
Pentanol	√	Amthyl methyl ketone	√
Hexanol	√	Pentan-2, 4-dione (acetylacetone)	√
Heptanol	√	Cyclohexanone	W
Octanol	√		
Nonanol	√	Esters	
Cyclohexanol	W	Methyl formate	W
Methycyclohexanol	√	Ethyl formate	√
Phenol	X	Propyl acetate	√
Cresol	W	Butyl acetate	√
4-hydroxy-4- methylpentan-2-one (diacetone alcohol)	√	Amyl acetate	√
		Methyl methacrylate	W
Acids		Ethyl methacrylate	√
Acetic acid	W	Vinyl acetate	√
		Ethyl acetoacetate	√

3.Compounds containing halogens			
	Response		Response
Chloromethane	W	Benzyl Chloride	?
Chloroethane	√	Dichlorobenzene	X
Bromoethane	√	Allyl chloride	W
Chloropropane	√	Chloroethylene (vinyl chloride)	W
Chlorobutane	√	d,d,d-trifluorotluene (benzotrifluoride)	X
Bromobutane	√	Dichloromethane (methylene chloride)	W
Dichloroethane	√	Chlorethanol	W
Dichloropropane	√	<i>Compounds with oxygen</i>	
Chlorobezene	√	Acetyl chloride	W
Dichloroethylene	X	Chloroethanol	W

4.Compounds containing sulphur			
	Response		
Ethanethiol (ethylmercaptan)	√		
Propane-1-thiol (propylmercaptan)	√		
Thiophene	?		

Tetrahydrothiophene	W	
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5. Compounds containing nitrogen

	Response		Response
Ammonia	X	Butylamine	√
Acetonitrile	W	Cyclohexylamine	√
Nitromethane	W	2-aminoethanol (ethanolamine)	√
Nitroethane	√	2-dietethylamineoethanol	√
		Diaminoethane	√
Amines		Aniline	X
Methylamine	W	NN-dimethylaniline	W
Dimethylamine	√	Toluidine	W
Trimethylamine	√	Pyridine	?
Diethylamine	√		
Triethylamine	√		
Propylamine	√		

Subdivision B

1. Hydrocarbons		2. Compounds containing nitrogen	
	Response		Response
Propene (allylene, methylacetylene)	W	Acrylonitrile	X
Ethylene	W	Isopropyl nitrate	√
Cyclopropane	W	Hydrogen cyanide	X
1,3-butadiene	?		

3. Compounds containing oxygen

	Response		
Dimethyl ether	√	1,3,5-trioxane	√
Ethyl methylether	√	Butyl glycolate (hydroxyacetic acid, butyl ester)	√
Dietmethylether	√	Tetrahydrofurfuryl alcohol	√
Dibutyl ether	√	Methyl acrylate	√
Ethylene oxide (oxirane)	W	Ethyl acrylate	√
1,2-epoxypropane (propylene oxide)	√	Furan	W
		Crotonaldehyde	W
1,3-dioxane	W	Acrylaldehyde	√
1,4-dioxane	√	Tetrahydrofuran	W

4. Mixtures

	Response
Coke oven gas	√

5. Compounds containing halogens		
	Response	
Tetrafluoroethylene	X	
1-Chloro-2,3-epoxypropane (epichlorohydrin)	√	

Subdivision C		
	Response	
Hydrogen	X	
Acetylene	X	
Carbon disulfide	X	

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