

# NANOCHEM® Purification Media

NANOCHEM® purification media have long been the industry standards for purifying inert gases, such as nitrogen, argon, and sulfur hexafluoride, as well as reactive gases, such as hydrogen, hydrocarbons, and hydride gases (including ammonia, silane, arsine and phosphine). Applications include biotech, chemical

processing, aerospace, analytical, petroleum refining, and semiconductor / compound semiconductor processes, including low temperature SiGe Epi, SiN and GaN MOCVD processes. Over twelve (12) different purification media are available to purify about 37 different gases.

## NANOCHEM® Media -- Gases Purified & Specifications

GASES PURIFIED	CHEMICAL FORMULA	PURIFICATION MEDIUM	PURIFICATION MEDIUM DESCRIPTION	IMPURITIES REMOVED	EFFICIENCY	END POINT DETECTION
<b>Inerts</b>						
Nitrogen Argon Helium Xenon Krypton Neon	N <sub>2</sub> Ar He Xe Kr Ne	OMX-Plus™	Reactive agents on a polymeric support w/ inorganic agent for NMHC removal	H <sub>2</sub> O, O <sub>2</sub> , CO <sub>2</sub> , THC except CH <sub>4</sub> Halocarbons except CF <sub>4</sub>	< 100 ppt, LDL  CO at Low Flow	DC only  < 1 ppb
		HCX™	High surface area inorganic medium	Hydrocarbons except CH <sub>4</sub> Halocarbons except CF <sub>4</sub>	< 100 ppt, LDL	Not available
		In2Go™	Reactive agents on an inorganic support	H <sub>2</sub> O, O <sub>2</sub> , CO, CO <sub>2</sub> THC except CH <sub>4</sub> Halocarbons	< 100 ppt, LDL	DC only
<b>Flammables - Partial List</b>						
Methane Ethane Cyclopropane Propane Butane	CH <sub>4</sub> C <sub>2</sub> H <sub>6</sub> C <sub>3</sub> H <sub>8</sub> C <sub>4</sub> H <sub>10</sub>	OMX-Plus™	Reactive agents on a polymeric support w/ inorganic agent for NMHC removal	H <sub>2</sub> O, O <sub>2</sub> , CO <sub>2</sub> , THC except CH <sub>4</sub> Halocarbons except CF <sub>4</sub>	< 100 ppt, LDL  CO at Low Flow	DC only  < 1 ppb
		OMX™	Reactive agents on a polymeric support	H <sub>2</sub> O, O <sub>2</sub> , CO <sub>2</sub>	< 100 ppt, LDL CO at Low Flow	DC only < 1 ppb
		OMX-Plus™	Reactive agents on a polymeric support w/ inorganic agent for NMHC removal	H <sub>2</sub> O, O <sub>2</sub> , CO <sub>2</sub> , THC except CH <sub>4</sub> Halocarbons except CF <sub>4</sub>	< 100 ppt, LDL  CO at Low Flow	DC only  < 1 ppb
Hydrogen Deuterium	H <sub>2</sub> D <sub>2</sub>	HCX™	High surface area inorganic medium	Hydrocarbons except CH <sub>4</sub> Halocarbons except CF <sub>4</sub>	< 100 ppt, LDL	Not available
		In2Go™	Reactive agents on an inorganic support	H <sub>2</sub> O, O <sub>2</sub> , CO, CO <sub>2</sub> THC except CH <sub>4</sub> Halocarbons	< 100 ppt, LDL	DC only
		OMX-Plus™	Reactive agents on a polymeric support w/ inorganic agent for NMHC removal	H <sub>2</sub> O, O <sub>2</sub> , CO <sub>2</sub> , THC except CH <sub>4</sub> Halocarbons except CF <sub>4</sub>	< 100 ppt, LDL  CO at Low Flow	DC only  < 1 ppb

Please contact customer service for other flammables, that can be purified.

### Halocarbons - Partial List

Carbon Tetrafluoride	CF <sub>4</sub>	OMX-Plus™	Reactive agents on a polymeric support w/ inorganic agent for NMHC removal	H <sub>2</sub> O, O <sub>2</sub> , CO <sub>2</sub> , THC except CH <sub>4</sub> & Other Halocarbons CO at Low Flow	< 100 ppt, LDL  < 1 ppb	DC only
Hexafluoroethane	C <sub>2</sub> F <sub>6</sub>	OMX™	Reactive agents on a polymeric support	H <sub>2</sub> O, O <sub>2</sub> , CO <sub>2</sub> CO	< 100 ppt, LDL < 1 ppb	DC only
Perfluoropropane	C <sub>3</sub> F <sub>8</sub>	OMX™	Reactive agents on a polymeric support	H <sub>2</sub> O, O <sub>2</sub> , CO <sub>2</sub>	< 100 ppt, LDL	DC only

Please contact customer service for other halocarbons, that can be purified.

ppb = Part per billion

ppt = Part per trillion

THC = Total Hydrocarbons

LDL = Lower Limit of Detection by state-of-the-art analytical instrumentation.

Please contact customer service for other gases not included in this list



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## NANOCHEM® Media -- Gases Purified & Specifications (continued)

GASES PURIFIED	CHEMICAL FORMULA	PURIFICATION MEDIUM	PURIFICATION MEDIUM DESCRIPTION	IMPURITIES REMOVED	EFFICIENCY	END POINT DETECTION
<b>Hydrides</b>						
Ammonia	NH <sub>3</sub>	In2Go™	Reactive agents on an inorganic support	H <sub>2</sub> O	< 10 ppb, LDL	DC only
				CO <sub>2</sub>	< 11 ppb, LDL	
				O <sub>2</sub>	< 5 ppb, LDL	
				GeH <sub>4</sub>	< 1 ppb, LDL	
				SiH <sub>4</sub>	< 1 ppb, LDL	
		TEOS	< 40 ppb, LDL			
		OMA™	Reactive agents on a polymeric support	H <sub>2</sub> O, O <sub>2</sub> , CO <sub>2</sub> in inert gas	< 100 ppt, LDL	DC only
Silane	SiH <sub>4</sub>	OMX™	Reactive agents on a polymeric support	H <sub>2</sub> O, O <sub>2</sub> , CO <sub>2</sub> , CO	< 10 ppb, LDL	DC only
Arsine	AsH <sub>3</sub>	ASX-II™	High surface area inorganic medium		< 100 ppt, LDL	DC only
Phosphine	PH <sub>3</sub>	PHX™	Reactive agents on an inorganic support		< 75 ppb H <sub>2</sub> O in AsH <sub>3</sub> , LDL	Not available
Germane	GeH <sub>3</sub>	Desicore™	Reactive agents on an inorganic support		< 33 ppb H <sub>2</sub> O in PH <sub>3</sub> , LDL	Not available
					< 5 ppb H <sub>2</sub> O in GeH <sub>3</sub> , LDL	Not available
<b>Hydride/Inert Mixes (N<sub>2</sub>, Ar, He, Xe, Kr, Ne, &amp; H<sub>2</sub>)</b>						
1-10% Arsine	AsH <sub>3</sub>	OMX™	Reactive agents on a polymeric support	H <sub>2</sub> O, O <sub>2</sub> , CO <sub>2</sub>	< 1 ppb	Not available
1-10% Germane	GeH <sub>4</sub>					
1-10% Phosphine	PH <sub>3</sub>					
<b>Corrosives</b>						
Boron Trichloride	BCl <sub>3</sub>	Metal-X™	High purity high surface area inorganic medium	H <sub>2</sub> O < 100 ppb, LDL Volatile Metals-Fe, Mo, Cr, Ti, Ni, Mn		Not available
Chlorine	Cl <sub>2</sub>					
Silicon Tetrachloride	SiCl <sub>4</sub>					
Trichlorosilane	SiHCl <sub>3</sub>					
Dichlorosilane	SiH <sub>2</sub> Cl <sub>2</sub>					
Hydrogen Bromide	HBr					
Hydrogen Chloride	HCl					
Hydrogen Fluoride	HF	CleanCorr™	High high surface area inorganic medium	H <sub>2</sub> O < 2 ppm, LDL		Not available
<b>Others</b>						
Carbon Monoxide	CO	Metal-X™	High purity high surface area inorganic medium	H <sub>2</sub> O < 100 ppb, LDL Volatile Metals-Fe, Mo, Cr, Ti, Ni, Mn		Not available
Nitric Oxide	NO					
Carbon Dioxide	CO <sub>2</sub>	OPX™	High surface area inorganic medium	H <sub>2</sub> O	< 10 ppb	Not available
		HCX™	High surface area inorganic medium	Hydrocarbons except CH <sub>4</sub> Halocarbons except CF <sub>4</sub>	< 100 ppt, LDL	Not available
Nitrous Oxide	N <sub>2</sub> O					
Oxygen	O <sub>2</sub>	OPX	High surface area inorganic medium	H <sub>2</sub> O	< 10 ppb	Not available
Dimethyl Ether	(CH <sub>3</sub> ) <sub>2</sub> O	OMX™	Reactive agents on a polymeric support	H <sub>2</sub> O, O <sub>2</sub> , CO <sub>2</sub>	< 100 ppt, LDL	DC only
Sulfur Hexafluoride	SF <sub>6</sub>	OMST™	Reactive agents on a polymeric support	H <sub>2</sub> O, O <sub>2</sub>	< 10 ppb, LDL	DC only
Acetylene	C <sub>2</sub> H <sub>2</sub>	AcetyClean™	High high surface area inorganic medium	H <sub>2</sub> O	< 1 ppm, LDL	Not available

ppm = Part per million

ppb = Part per billion

ppt = Part per trillion

THC = Total Hydrocarbons

LDL = Lower Limit of Detection by state-of-the-art analytical instrumentation.

Please contact customer service for other gases not included in this list

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Specifications are subject to change. Please check [www.mathesongas.com](http://www.mathesongas.com) for most current information.

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