

# 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		
Inerts								
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	DC only		
				CO at Low Flow	< 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		
Flammables - Partial List								
Methane Ethane Cyclopropane Propane Butane	CH <sub>4</sub> C <sub>2</sub> H <sub>6</sub> C <sub>3</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	DC only		
				CO at Low Flow	< 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	DC only		
				CO at Low Flow	< 1 ppb			
		Hydrogen Deuterium	H <sub>2</sub> D <sub>2</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	DC only
						CO at Low Flow	< 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		

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
Hydrides						
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
			H <sub>2</sub> O in ammonia	< 10 ppb, LDL		
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	< 100 ppt, LDL	DC only
Arsine	AsH <sub>3</sub>	ASX-II™	High surface area inorganic medium	< 75 ppb H <sub>2</sub> O in AsH <sub>3</sub> , LDL		Not available
Phosphine	PH <sub>3</sub>	PHX™	Reactive agents on an inorganic support	< 33 ppb H <sub>2</sub> O in PH <sub>3</sub> , LDL		Not available
Germane	GeH <sub>3</sub>	Desicore™	Reactive agents on an inorganic support	< 5 ppb H <sub>2</sub> O in GeH <sub>3</sub> , LDL		Not available
Hydride/Inert Mixes (N <sub>2</sub> , Ar, He, Xe, Kr, Ne, & H <sub>2</sub> )						
1-10% Arsine 1-10% Germane 1-10% Phosphine	AsH <sub>3</sub> GeH <sub>4</sub> PH <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
Corrosives						
Boron Trichloride Chlorine Silicon Tetrachloride Trichlorosilane Dichlorosilane Hydrogen Bromide Hydrogen Chloride Hydrogen Fluoride	BCl <sub>3</sub> Cl <sub>2</sub> SiCl <sub>4</sub> SiHCl <sub>3</sub> SiH <sub>2</sub> Cl <sub>2</sub> HBr HCl HF	Metal-X™       CleanCorr™	High purity high surface area inorganic medium       High high surface area inorganic medium	H <sub>2</sub> O < 100 ppb, LDL Volatile Metals-Fe, Mo, Cr, Ti, Ni, Mn       H <sub>2</sub> O < 2 ppm, LDL		Not available       Not available
Others						
Carbon Monoxide Nitric Oxide	CO NO	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
Carbon Dioxide Nitrous Oxide	CO <sub>2</sub> N <sub>2</sub> O	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
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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