

ELECTRONIC GAS

HYDROGEN SELENIDE H₂Se MIXTURES

Hydrogen Selenide can be diluted with argon, helium, hydrogen or nitrogen in order to provide concentrations of less than 100%. Using Hydrogen Selenide in this form can add an additional degree of control to the process, particularly when relatively small amounts of selenium are to be deposited. Mixtures are analyzed prior to shipment to ensure that the concentration is in the requested range. Hydrogen Selenide mixtures are prepared as ordered. Concentrations other than those listed below are available upon request.

Container Information

CYLINDER CONNECTION: CGA-350 / DISS-632

DOPING CONCENTRATIONS can be mixed with ULSI or VLSI grade balance gases

H ₂ Se Concentration	Cylinder Size	Pressure psig	Argon		Helium		Hydrogen		Nitrogen	
			ft ³	m ³	ft ³	m ³	ft ³	m ³	ft ³	m ³
10 ppm - 5%	044	1800	200	5.66	175	4.95	175	4.95	187	5.30
	016	1800	75	2.12	66	1.87	66	2.12	70	1.98

The pressures on higher concentration mixtures are lower than those shown above due to the fact that Hydrogen Selenide has a low vapor pressure. Only a maximum amount can be put into a cylinder to avoid liquefaction of the Hydrogen Selenide. To achieve higher concentrations, less balance gas is added.

SHELF LIFE: 2 years

DOT Shipping Information

HYDROGEN BALANCE

Conc	Shipping Name	Shipping Papers	Shipping Labels
>1%	__% Hydrogen Selenide/ Hydrogen Mixture, Inhalation Hazard	Compressed Gases, toxic, flammable, nos (__% Hydrogen Selenide/Hydrogen Mixture) 2.3 UN 1953 Poison Inhalation Hazard, Hazard Zone A	Poison Gas Flammable Gas
1% - 0.2%	__% Hydrogen Selenide/ Hydrogen Mixture, Inhalation Hazard	Compressed Gases, toxic, flammable, nos (__% Hydrogen Selenide/Hydrogen Mixture) 2.3 UN 1953 Poison Inhalation Hazard, Hazard Zone B	Poison Gas Flammable Gas
0.2% - 0.07%	__% Hydrogen Selenide/ Hydrogen Mixture, Inhalation Hazard	Compressed Gases, toxic, flammable, nos (__% Hydrogen Selenide/Hydrogen Mixture) 2.3 UN 1953 Poison Inhalation Hazard, Hazard Zone C	Poison Gas Flammable Gas
0.07% - 0.04%	__% Hydrogen Selenide/ Hydrogen Mixture, Inhalation Hazard	Compressed Gases, toxic, flammable, nos (__% Hydrogen Selenide/Hydrogen Mixture) 2.3 UN 1953 Poison Inhalation Hazard, Hazard Zone D	Poison Gas Flammable Gas
<400 ppm	__ppm Hydrogen Selenide/ Hydrogen Mixture	Compressed Gases, flammable, nos (__ppm Hydrogen Selenide/Hydrogen Mixture) 2.1 UN 1954	Flammable Gas