



Technical Data Sheet

# PURIFIDE XG 12 USP-NF

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PurifiDE® XG-1, PurifiDE XG-3, and PurifiDE XG-12 Purified Siliceous Earth USP-NF Filter Aids labeled, 'Not intended for use in Pharmaceutical Manufacturing' (NIPM) are recommended for use in the production of delicate food and beverage products, such as nutraceuticals, luxury brands of bourbon and other spirits, and for the filtration of unstable chemicals that are prone to modification by exposure to even low levels of elemental impurities.

**Typical uses include:**

- Separation of high value oils and fats used as nutraceuticals or in cosmetics (polyunsaturated fats are easily oxidized by low levels of metallic elemental impurities)
- Filtration and clarification of distilled spirits, such as bourbon, whiskey, and rum
- Filtration of beverages, such as sake and green tea that can be spoiled by contamination with low levels of leached iron
- Removal of particulates from unstable organic and inorganic liquid chemicals at high or low temperatures

## MANUFACTURING PROCESS

PurifiDE® XG USP-NF Purified Siliceous Earth (NIPM) are made entirely in the USA from unique low-density DE ores and well-controlled manufacturing processes which include calcination and further purification in a closed facility that follows, at minimum, an ISO 9001:2015 certified Quality Management System and Good Manufacturing Practices. The manufacturing processes yield products which meet the purity standards of the Monograph on Purified Siliceous Earth in the United States Pharmacopeia-National Formulary (USP 40-NF 35). The manufacturing processes also reduce leachable elemental impurities to trace levels (Table 1).

PurifiDE® XG Purified Siliceous Earth USP-NF NIPM products are released for sale after quality control testing in a cGMP compliant QC laboratory.

Elemental Impurity	PurifiDE XG 3 USP-NF	PurifiDE XG 12 USP-NF
Antimony (ppm)	<0.025	<0.025
Arsenic (ppm)	<0.025	<0.025
Cadmium (ppm)	<0.025	<0.025
Cobalt (ppm)	<0.025	<0.025
Copper (ppm)	0.125	0.15
Iron (ppm)	6	5
Lead (ppm)	<0.025	<0.035
Lithium (ppm)	<2.5	<2.5
Mercury (ppm)	<0.0025	<0.0025
Molybdenum (ppm)	<0.025	<0.025
Nickel (ppm)	0.03	0.08
Selenium (ppm)	<0.125	<0.125
Tin (ppm)	<2.5	<2.5
Vanadium (ppm)	0.065	<0.025

Table 1. Typical levels of elemental impurities detected in leachates (0.1 M HG, 1 hr.) of PurifiDE XG-3 and XG-12 detected with GP-MS.

## QUALITY CONTROL

Please request quality documents from your EP Minerals sales professional.

Parameters	Test Type	Limits
Permeability (Darcy)	EP Minerals	0.8 -1.4
Centrifuge Wet Density (g/ml)	EP Minerals	NMT 0.37 (NMT 23 lbs./ft <sup>3</sup> )
Conductivity (µSiem)	EP Minerals	NMT 20
Loss on Drying(%)	USP-NF Purified Siliceous Earth	NMT 0.5
Loss on Ignition(%)	USP-NF Purified Siliceous Earth	NMT 2.0
Water-Soluble Substances (%)	USP-NF Purified Siliceous Earth	NMT 0.2
Acid-Soluble Substances (%)	USP-NF Purified Siliceous Earth	NMT 2
Leachable Arsenic (mg/kg)	USP-NF Purified Siliceous Earth	NMT 10
Leachable Lead (mg/kg)	USP-NF Purified Siliceous Earth	NMT 10
Leachable Iron (mg/kg)	USP-NF Purified Siliceous Earth	NMT 10
Limit of Non-Siliceous Substances (mg in 200 mg)	USP-NF Purified Siliceous Earth	NMT 50

Table 2. Tests and limits shown on the certificates of analysis for PurifiDE XG USP-NF Purified Siliceous Earth NIPM.

## PACKAGING AND LABELING

PurifiDE XG-12 Purified Siliceous Earth USP-NF (NIPM) are packaged in lined paper bags ,Each Bulk bag contains 28.7 lbs. (13 kg) net of product and carries a label with details of the contents. BVV™ distributes smaller bags which have been packed down from the 13kg bulk bags for sale and samples.

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