Filtration Specifications

The Black Berkey Purification Elements far surpass other water filters in filtration capability as evidenced by their extensive filtration specifications. These elements have a specialized purification process that is due to their unique structure. The element's filtration media is a combination of micro-pores, which trap harmful contaminants like bacteria, and revolutionary material with adsorption and ion exchange properties that essentially attract molecules and viruses to the media, preventing them from passing into your drinking water.

Many water filters on the market may claim to be a purifier but do not meet the performance specifications required for this classification. In order to be classified as a water purifier, a water treatment device must remove at least 99.9999% of pathogenic bacteria (known as a log 6 reduction in the water treatment industry) and reduce viruses by 99.99% (log 4 reduction). Our Berkey Water filter systems can be classified as a water purifier because the elements actually remove 99.9999999% of pathogenic bacteria (log 9 reduction) and 99.999% of viruses which greatly exceeds the standards.

The Black Berkey filters have been tested by several EPA-accredited laboratories including the Department of Toxicology and Environmental Science at Louisiana University, Spectrum Labs, and the University of Phoenix. This extensive testing confirmed that the Black Berkey Purification Elements far exceed EPA and ANSI/NSF (Std. 53) protocol.

The Black Berkey Filters have been tested and confirmed to remove or greatly reduce the contaminants listed below.

Viruses: Removed to >99.999% (Log 5)

MS2 Coliphage - Fr Coliphage

*Exceeds purification standards (Log 4)

Pathogenic Bacteria (And Surrogates): Removed to >99.9999%

Raoultella terrigena (Pathogenic Bacteria Surrogate); Bacillus atrophaues (Anthrax Surrogate); Salmonella Enterica

*Exceeds purification standard (Log 6)

Trihalomethanes: Removed to >99.8%

Bromodichloromethane; Bromoform; Chloroform: Dibromochloromethane

*Below Lab Detectable Limits

Inorganic Minerals

Chloramine; Chloride; Chlorine Residual (Total Residual Chlorine); Free Chlorine

*Removed to Below Lab Detectable Limits

Heavy Metals (High & Low pH Levels)

Aluminum (>99%); Antimony (>99.9%); Barium (>80%); Beryllium (>99.9%); Bismuth (>99.9%); Cadmium (>99.7%); Cobalt (>95%); Chromium (>99.9%); Chromium 6 (>99.85%); Copper (>99.9%); Iron (>99.9%); Lead (>99.9%); Mercury (>99.9%); Molybdenum (>90%); Nickel (>99.9%); Vanadium (>87.5%); Zinc (>99.9%)

Micro-Organisms: Removed to >99.9%

Including: Total Coliform, Fecal Coliform, e.Coli

Pharmaceutical Drug Contaminants: Removed to >99.9%

Acetaminophen; Caffeine; Carbamazepine; Ciprofloxacin HCl; Erythromycin USP; Sulfamethoxazole; Trimethoprim; Bisphenol A; Diclofenac Sodium; 4-para-Nonylphenol; 4-tert-Octylphenol; Primidone; Progestrone; Gemfibrozil; Ibuprofen; Naproxen Sodium; Triclosan.

Pesticides & Volatile Organic Compounds: Removed to Below Lab Detectable Limits

1,1,1,2-Tetrachloroethane, 1,1,1-Trichloroethane (TCA), 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloroethane, 1,1,2-Trichlorotrifluoroethane, 1,1-Dichloroethane (1,1-DCA), 1,1-Dichloroethylene (1,1-DCE), 1,1-Dichloropropene, 1,2,3-Trichlorobenzene, 1,2,3-Trichloropropane, 1,2,4-Trichlorobenzene, 1,2,4-Trimethylbenzene, 1,2-Dibromo-3-chloropropane (DBCP), 1,2-Dibromoethane, 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a), 1,2-Dichlorobenzene, 1,2-Dichlorobenzene-d4, 1,2-Dichloroethane, 1,2-Dichloropropane, 1,3,5-Trimethylbenzene, 1,3-Dichlorobenzene, 1,3-Dichloropropene, 1,4-Dichlorobenzene, 2,2-Dichloropropane, 2,4,5-T, 2,4,5-TP (Silvex), 2,4-D, 2,4-DB, 2-Butanone (MEK), 2-Chlorotoluene, 2-Hexanone, 2-Methyl-2-propanol, 3,5-Dichlorobenzoic Acid, 3-Hydroxycarbofuran, 4-Bromofluorobenzene, 4-Chlorotoluene, 4-Isopropyltoluene, 4-Methyl-2-pentanone, 4-Nitrophenol4,4′-DDD4,4′-DDE, 4,4″-DDT, 5-Hydroxydicamba, Acetone, Acenaphthylene, Acifluorfen, Alachlor, Aldicarb, Aldicarb Sulfone, Aldicarb Sulfoxide, Aldrin, alpha-Chlorodane, Ametryn, Anthracene, Aroclor (1016, 1221, 1232, 1242, 1248, 1254, 1260), Atraton, Atrazine, Baygon, Bentazon, Benzene, Bromacil, Bromoacetic Acid, Bromobenzene, Bromochloromethane,

Bromodichloromethane, Bromomethane, Bromoform, Butachlor, Butylate, Butylbenzylphthalate, Carbaryl, Carbofuran, Carbon Tetrachloride, Carboxin, Chloramben, Chlordane, Chloroacetic Acid, Chlorobenzene, Chlorobenzilate, Chloroethane, Chloroform, Chloromethane, Chlorpropham, Chlorprophane, cis-1,2-Dichloroethylene, cis-1,3-Dichloropropene, cis-Nonachlor, Cycloate, Dacthal Acid, Dalapon, Diazinona, Dibromoacetic Acid, Dibromochloropropane (DBCP), Dibromomethane, Dicamba, Dichloroacetic Acid, Dichlorodifluoromethane (CFC 12), Dichloromethane, Dichlorvos, Diclorprop, DieldrinDiethylphthalate, Dinoseb, Diphenamid, Disulfoton, Disulfoton Sulfone, Disulfoton Sulfoxidea, Endrin, EPTC, Ethoprop, Ethylbenzene, Ethylene Dibromide (EDB), Fenamiphos, Fenarimol, Fluorobenzene, Fluridone, gamma-Chlorodane, Glyphosate, Halo acidic Acids (HAA5), Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, Hexachlorobutadiene (CCC), Hexachlorocyclopentadiene, HexazinoneIsophorone, Isopropylbenzene (Cumene), Lindane (Gamma-BHC), Merphos, Methiocarb, Methomyl, Methoxychlor, Methylcyclohexane-methane, Methyl Paraoxon, Methyl tert-Butyl Ether (MTBE), Metolachlor, Metribuzin, Mevinphos, MGK 264, Molinate, Monochlorobenzene, m-Xylenes, Naphthalene, Napropamide, n-Butylbenzene, Norflurazon, n-Propylbenzene, Oxamyl, o-Xylene, Pebulate, Pentachlorophenol, Picloram. Prometon, Prometryn, Pronamidea, Propazine, p-Xylenes, sec-Butylbenzene, Simazine, Simetryn, Stirofos, Styrene, Tebuthiuron, Terbacil, Terbufos, Terbutryn, tert-Butylbenzene, Tetrachloroethylene (PCE), Tetrahydrofuran (THF), Thiobencarb, Toluene, Toxaphene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene, trans-Nonachlor, Triademefon, Tribromoacetic Acid, Trichloroacetic Acid, Trichloroethene (TCE), Trichloroethylene, Trichlorofluoromethane (CFC 11), Tricyclazole, Trifuralin, Vernolate, Vinyl Chloride, and many more*

Also removes or reduces:

Arsenic (>99.9%); Escherichia coli (E. Coli) (>99.999%); Fluorene (>99.9%); Manganese (>99.9%); MBAS (>96.67%); Nitrites (>95%); PCB's (>99.9%); Petroleum Products (Gasoline, Diesel, Crude Oil, Kerosene, Mineral Spirits, Refined Oil- All >99.9%); Selenium (>99.9%); Thallium (>99.5%); Rust; Silt; Sediment; Turbidity; Foul Tastes and Odors.

Water Filter vs Water Purifier

The term water filter is universally used to describe many water filtration devices including the Berkey systems. While the term can be an accurate description, the meaning when talking about water treatment standards is different.

Lets take a look at the two standards when classifying water treatment devices;

Water Filter

This classification must meet the following standard:

CONTAMINANT	SPECIES	REMOVAL STANDARD
Pathogenic Bacteria	Klebsiella terrigena	greater than 99.99% reduction Known as (Log 4)

Water Purifiers

In order to be in this classification the following standard must be met:

CONTAMINANT	SPECIES	REMOVAL STANDARD
Pathogenic Bacteria	Klebsiella terrigena	greater than 99.9999% reduction Known as (Log 6)
Virus	Polio and Rota	greater than 99.99% reduction known as (Log 4)

All Berkey systems contain the Black Berkey Filter and meet the Water purifier standard. In fact Berkey Purifiers far surpass this standard and actually remove 99.9999999% known as a log 9 reduction, when dealing with pathogenic bacteria. This distinction is what makes Berkey the only certifiable gravity flow water purification system.

Please take a look at the following chart which includes a head to head Comparison with our competition and see for yourself which classification they claim. Take note that some use harsh chemicals in order to reach the level of purification, chemicals like iodine or chlorinating tablets. We do not have to use chemicals, only our unique ionic adsorbtion process mated with simple microfiltration. In short these two methods create a pore structure so minute that contaminants are removed from the water because they simply cannot pass through the charged filtering media.