







There are some who feel that the purification of drinking water “in the field” is difficult, risky, and should only be handled by trained professionals. One such opinion states:

“The purification of unsafe water, particularly in remote areas, can be difficult and requires trained supervision”

USAID Field Operations Guide, Chapter III: Information on Populations at Risk

This is simply not the case anymore, as even the un-trained novice can make safe and healthy drinking water by using our portable purification units. In fact, the “NOAH SOLUTION” re-writes the rules on remote water purification. Our units were designed, engineered, and built to solve the very same problems as expressed above.

-  Purify All Types of Unsafe Water
-  Designed Specifically For Remote Areas
-  Systems Made Operational in Minutes
-  Simple Operation with Little / No Supervision
-  Easy Maintenance, Cost Effective
-  Comprehensive 4-Stage Purification Process

While the Trekker and Nomad differ in capacity, they both use the same patented technology. In addition to *visibly* cleaning the water, they also methodically *kill the bacteria and virus* hidden to the naked eye. That's what sets the Nomad and Trekker apart from all other products on the market. We've combined filtration and Ultraviolet treatment, engineering them together into one cohesive process, creating water purification units that are completely portable.

Four Stage Purification Process
1. Pre-Filtration
2. Sediment Filtration
3. Carbon Block Filtration
4. Ultraviolet Treatment




Pre-Filtration

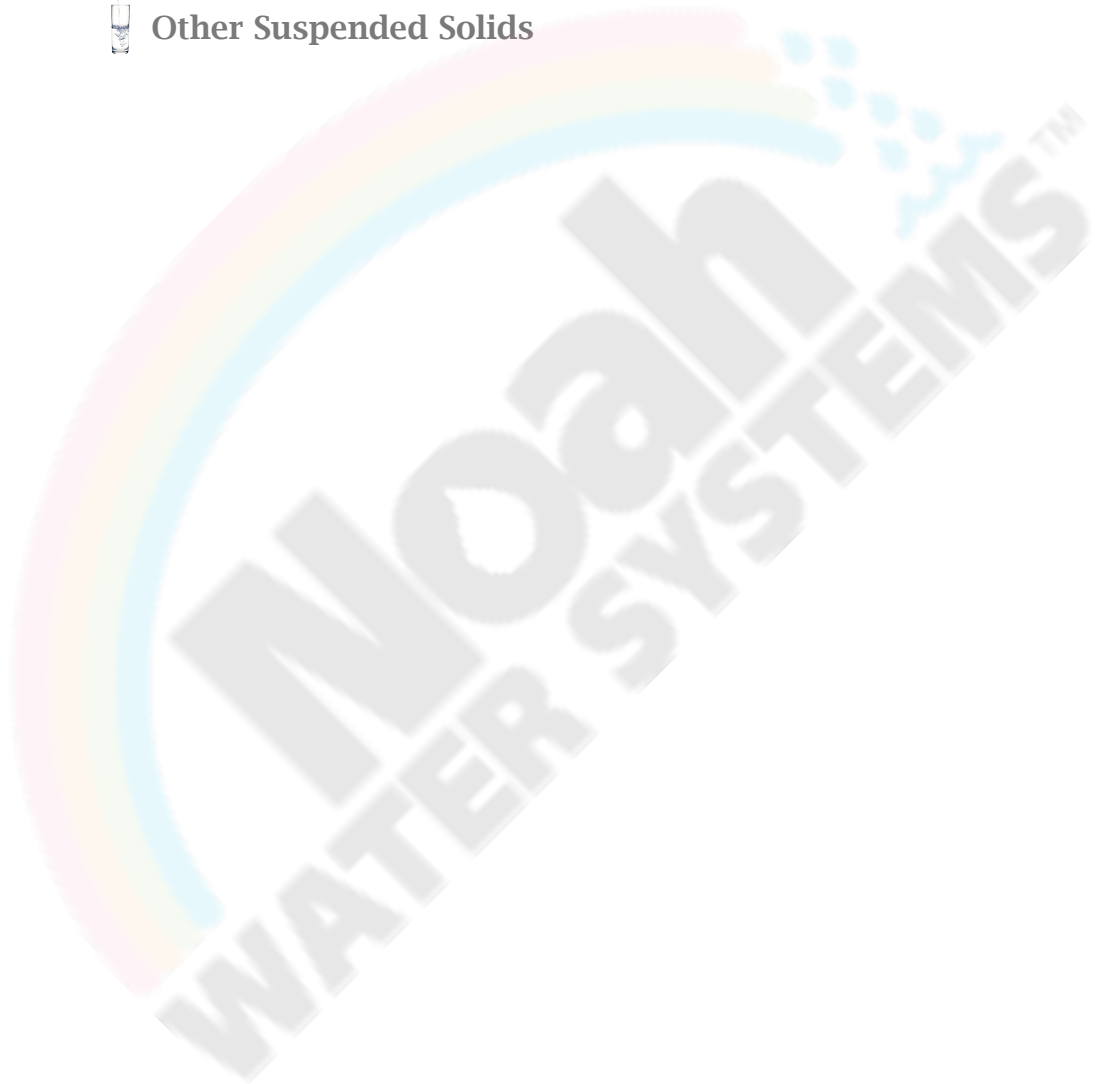
The purification process starts with a pre-filter, screening the source water at the point of entry. In the Noah product line, the pre-filter screens are incorporated with the inlet hose. This is essential in preventing the system from becoming plugged with rocks, mud, feces and other large debris.



Sediment Filtration

The water passes through a sediment filter. Adding a sediment filter provides 5-micron filtration to extend the life of the carbon filter by removing unseen sediment that will prematurely clog the filter. This would include the removal of:

-  Sand, Silt and Scale
-  Dirt and Mud
-  Other Suspended Solids



Carbon Block Filtration

The carbon block filtration process is actually comprised of two distinctly different procedures.

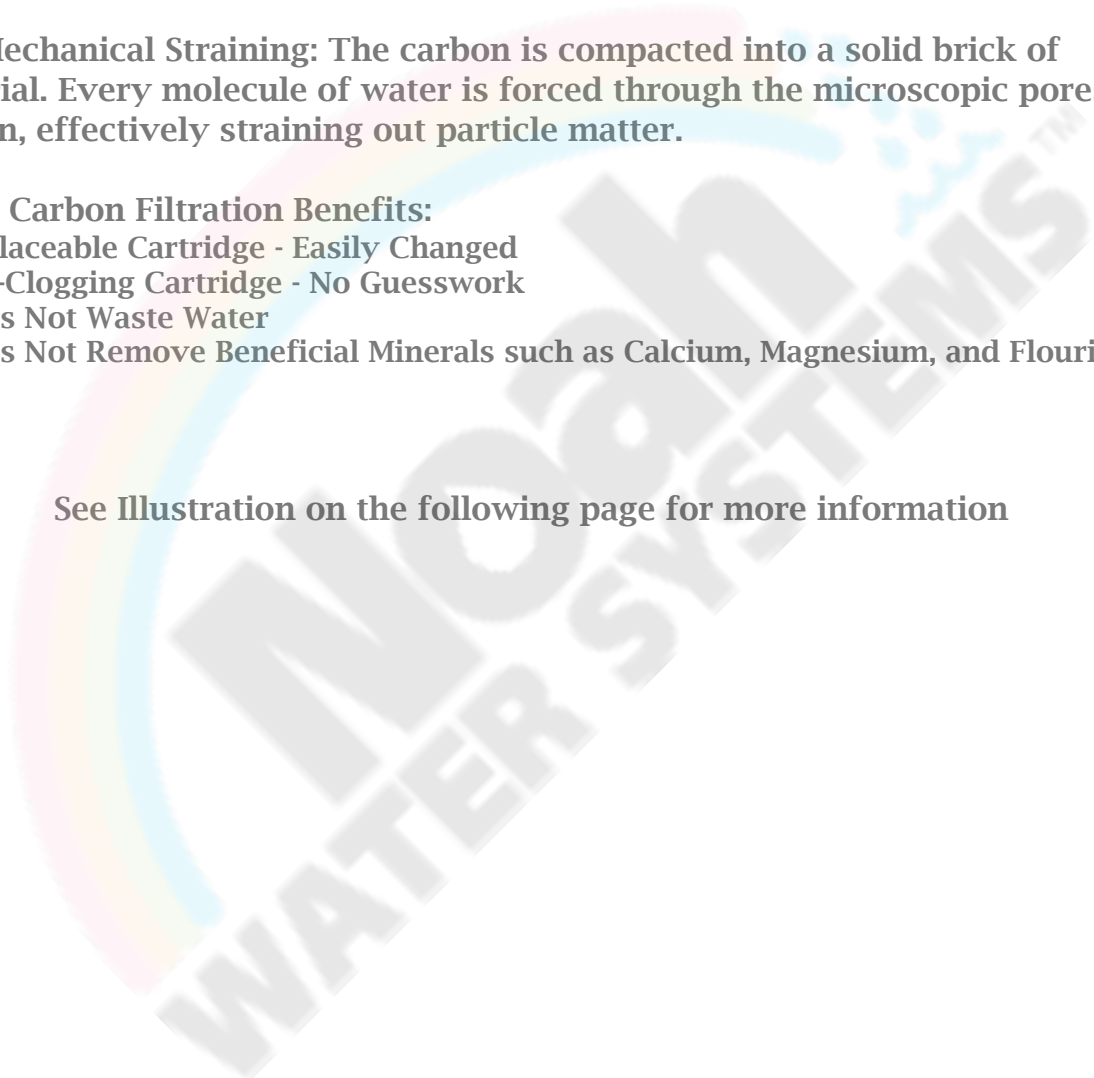
1. Chemical Bonding: Uses activated carbon (sometimes called activated charcoal) which has a slight electro-positive charge added to it, making an even more attractive bonding agent to chemicals and impurities. When water is forced through the solid carbon block, it is forced to slow down and increase the amount of contact time with the carbon, allowing the carbon bonding to take place.

2. Mechanical Straining: The carbon is compacted into a solid brick of material. Every molecule of water is forced through the microscopic pores of carbon, effectively straining out particle matter.

Other Carbon Filtration Benefits:

- 1. Replaceable Cartridge - Easily Changed**
- 2. Self-Clogging Cartridge - No Guesswork**
- 3. Does Not Waste Water**
- 4. Does Not Remove Beneficial Minerals such as Calcium, Magnesium, and Flouride**

See Illustration on the following page for more information



**CARBON FILTRATION IN ALL NOAH SYSTEMS
EFFECTIVELY REDUCES THE FOLLOWING:**

ORGANIC CHEMICALS

- ✓ Acrylamide
- ✓ Benzene
- ✓ Carbon Tetrachloride
- ✓ 1, 2-Dibromo-3-chloropropane (DBCP)
- ✓ o-Dichlorobenzene
- ✓ p-Dichlorobenzene
- ✓ 1,2-Dichloroethane
- ✓ Dichloroethylene 1-1,cis-1,2, trans-1,2
- ✓ 1,2-Dichloropropane
- ✓ Epichlorohydrin
- ✓ Ethylbenzene
- ✓ Ethylene dibromide
- ✓ Styrene
- ✓ Tetrachloroethylene
- ✓ Toluene
- ✓ 1,1,1-Trichloroethane
- ✓ Trichloroethylene
- ✓ THM's Total trihalomethanes, Chloroform, Bromoform, Bromodichloromethane, Dibromochloromethane
- ✓ Vinyl chloride
- ✓ Xylenes

INORGANIC CHEMICALS

- ✓ Asbestos
- ✓ Lead
- ✓ Mercury

OTHER CONCERNS

- ✓ Chlorine
- ✓ Color, Odor, & Taste
- ✓ Turbidity (cloudiness)

PESTICIDES

- ✓ Aldicarb
- ✓ Carbofuran
- ✓ Chlordane
- ✓ Endrin
- ✓ Heptachlor epoxide
- ✓ Lindane
- ✓ Methoxychlor
- ✓ Toxaphene

MICROBIOLOGICAL




- ✓ Giardia lamblia
- ✓ Cryptosporidium

HERBICIDES

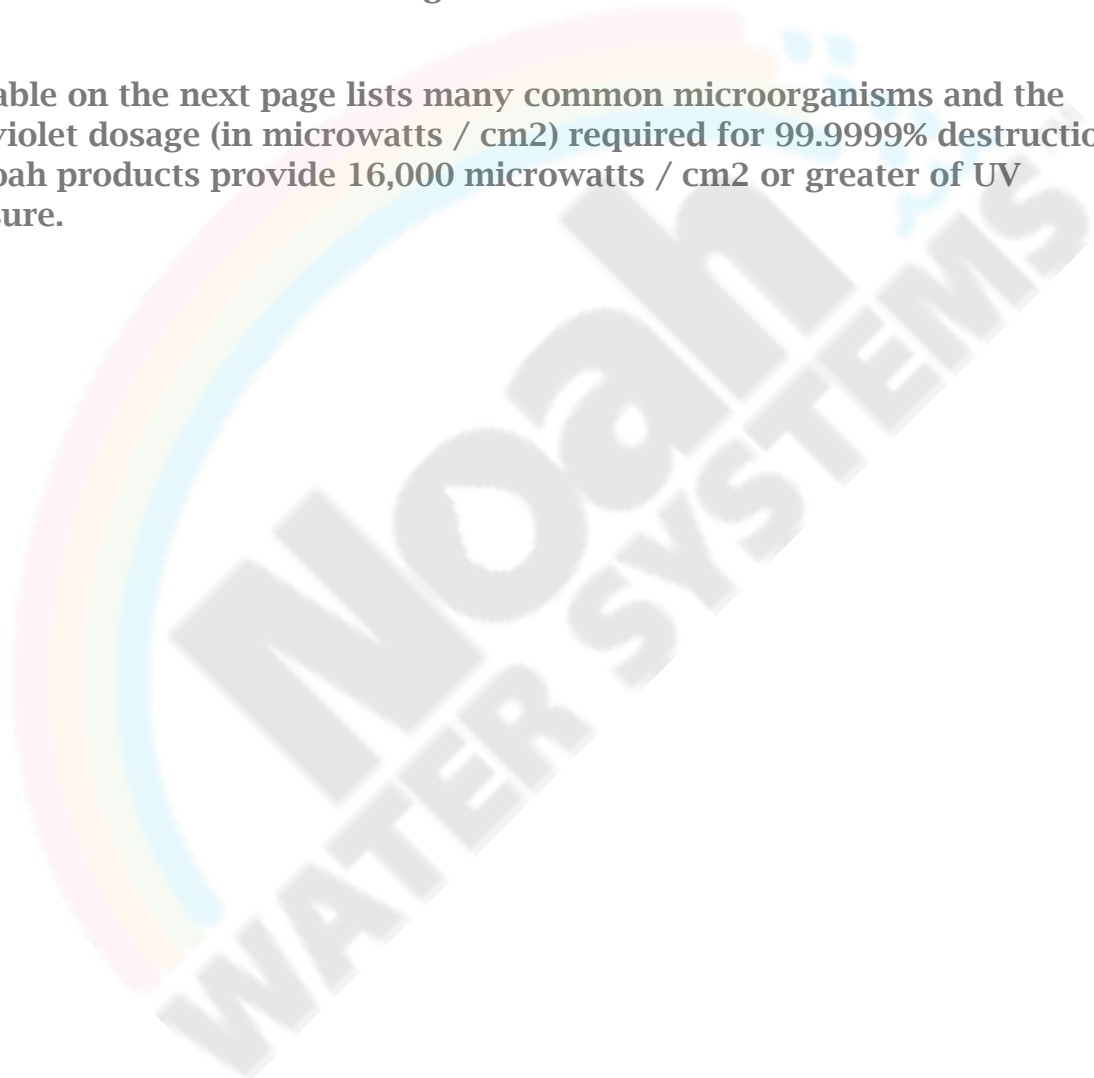
- ✓ Alachlor
- ✓ Atrazine
- ✓ 2,4-D Pentachlorophenol
- ✓ 2,4,5-TP (Silvex)

Ultraviolet Treatment

Ultraviolet treatment is the final, and in most cases, the most important step in the purification process. After the carbon filter has cleansed the water, it is exposed to intense dosages of UV light. This exposure effectively destroys viruses, bacteria, fungi, algae and protozoa.

-  UV light destroys a microorganism by scrambling its DNA structure
-  The cells are rendered sterile and cannot reproduce
-  The cells are dead and no longer a threat

The table on the next page lists many common microorganisms and the Ultraviolet dosage (in microwatts / cm²) required for 99.9999% destruction. All Noah products provide 16,000 microwatts / cm² or greater of UV exposure.



Microorganism	Common Name	Dosage Required
BACTERIA		
Agrobacterium tumefaciens		8500
Bacillus anthraci	Anthrax causative	8700
Bacillus megaterium	(non-pathogen)	2500
Bacillus subtilis	(non-pathogen)	11000
Corynebacterium diphtheriae	Diphtheria	6500
Escherichia coli	E. Coli	7000
Legionella bozemannii	Pneumonia strain	3500
Legionella dumoffii	Pneumonia strain	5500
Legionella gormanii	Pneumonia strain	4900
Legionella micdadei	Pneumonia strain	3100
Legionella longbeachae	Pneumonia strain	2900
Legionella pneumophila	Legionnaires disease	3800
Leptospira interrogans	Infectious jaundice	6000
Mycobacterium tuberculosis	Tuberculosis causative	10000
Neisseria catarrhalis	Parasite	8500
Proteus vulgaris	Cystitis/Pyelonephritis	6600
Pseudomonas aeruginosa	Pathogenic	3900
Pseudomonas aeruginosa	Pathogenic	10500
Rhodospirillum rubrum	(non-pathogen)	6200
Salmonella enteritidis	Gastroenteritis	7600
Salmonella paratyphi	Enteric fever	6100
Salmonella typhimurium	Gastroenteritis	15200
Salmonella typhosa	Typhoid fever	6000
Serratia marcescens	Pathogenic	6200
Shigella dysenteriae	Dysentery	4200
Shigella flexneri	Dysentery	3400
Shigella sonnei	Dysentery	7000
Staphylococcus epidermidis	Staph Infection (skin)	5800
Staphylococcus aureus	Staph Infection	7000
Streptococcus faecalis	Pathogenic	10000
Streptococcus hemolyticus	Pathogenic	5500
Streptococcus lactis	Pathogenic	8000
Viridans streptococci	Pathogenic	3800
Vibrio cholerae	Cholera	6500
MOLD SPORES		
Penicillium digitatum		8800
YEAST		
Baker's yeast		8800
Brewer's yeast		6600
Common yeast cake		13200
Saccharomyces var.		13200
VIRUSES		
Bacteriophage	E. Coli	6600
Hepatitis virus	Hepatitis	8000
Influenza virus	Common flu	6600