The CampLite Trailer



The CampLite trailers are built almost entirely of aluminum, and may be a usable option for people with MCS, but it will likely take years to offgas a new trailer. There are also a number of pitfalls to be aware of.

Keywords: CampLite, travel trailer, MCS, multiple chemical sensitivity, less toxic, housing

The problem with trailers

The fundamental problem with trailers is that they must be light and small enough to be movable. Most non-toxic materials weigh too much to be used in a trailer. Also, the small space makes even low-offgassing items more troublesome than they would be in the much larger airspace of a house.

Finding a non-toxic camping trailer is a particularly difficult problem for people with multiple chemical sensitivity. Trailers are generally built with wooden studs, sheets of pressboard, carpets, vinyl and other noxious components. It may take ten years to offgas a new trailer, and by then it is usually falling apart, has a leaky roof and plumbing and is contaminated with mold, fragrances, etc. It is very rare to find a used, usable camper.

Another option is to strip a toxic trailer to the walls, so only the outer walls, studs and floor is left. Then wash the walls and seal the floor. This method has a spotty record, especially due to moldy studs and moldy subfloors. Such campers are also uncomfortable to live in, due to lack of insulation, plumbing, etc.

The CampLite trailers

The CampLite trailers were introduced in 2010 by Livin Lite in Indiana, USA. These trailers are different from other brands in that they are almost totally made of aluminum. This is a much safer material than conventional models.

The reason for the all-aluminum design is to make them more durable and much lighter. The manufacturer did not design them with environmental illness in mind. They are not MCS trailer specialists.

The following comments are based on a 2011 visit to a dealer in Las Vegas, their brochures, and conversations with salespeople at the company headquarters in Indiana. I have also visited two people with MCS who bought a CampLite trailer and received input from others.

Materials

The CampLite trailers are mostly made of aluminum. This includes the frame, the walls, ceiling, floor, doors, cabinets, bunks and possibly the countertops. There is no carpeting, and no wood products could be seen anywhere.

The cabinets may be made of plastic (Azdel) on some models, but aluminum cabinets can be ordered instead.

There are some very toxic seat cushions, which stunk up the trailers on display. These cushions can be easily discarded and replaced with a tolerable material, such as cotton pads.

Some models have a fold-out tent on the side, which is probably not acceptable since tents tend to stink for years from herbicides, flame retardants, UV protectors and plastics. Such a tent could be removed and thrown out.

Some models have vinyl wallpaper on the inside, which is not good. Vinyl never fully offgasses. Even after decades in a hot car, it can be smelled. A trailer can be ordered without this wallpaper. For a used trailer, it may not be possible to remove it. In cooler climates, it may be okay.

The walls are a sandwich construction, with a plate on the inside and the outside with foam board insulation in between. These are all laminated together with glue and cannot be separated. The foam board appears to be Styrofoam. With this laminated construction, there should be very little contact with the inside air, even when the wind blows.

The outside wall plate is aluminum, with some baked-on paint that appears to be safe.

The inside plate is either aluminum or a hard plastic called Azdel. The aluminum plates are shiny without a pattern. Some models have Azdel, some have aluminum. The manufacturer says the Azdel plate reduces condensation on the inside walls. The manufacturer may custom make any model with aluminum wall board, at extra cost (ask).

The walls have one inch (25 mm) of insulation with an R-9 value. The roof has three inches (75 mm) insulation, with R-15. This is pretty good for a travel trailer, but much less than used in a house. More insulation adds weight.

Caulk is used in the bathroom, around the cabinets, the wall panel seams and probably various other places. Caulk cannot be avoided, though most caulks will offgas well within a few months. Some caulks contain biocides, however.

The countertop is formica in some models. This laminate will take a long time to offgas, so it is not acceptable in a new trailer. It should be possible to install a custom countertop instead.

The windows have a built-in screen made of vinyl, which can be bothersome when hot. They cannot be removed, but the manufacturer may put in windows without this feature, if ordered.

The commode is made of plastic and so was the floor in the bathroom. The material used for the shower hose is very stinky and will need to be replaced or offgassed for many months.

There are various other plastic items, such as electrical wires, plumbing pipes, wall switches, etc. Most of these are hard plastic, which makes them less offgassing.

There are soft gaskets around the windows and door, which will need offgassing.

Someone in Canada bought a 2014 model, which had stinky plastic linings inside the aluminum cabinets which could not be removed. She also found some toxic black material inside the fixed benches.

The bathroom

Some of the smallest models have no bathroom. All other models have the same very tiny bathroom where one has to sit on the commode to take a shower.

The shower has a small built-in electric water heater (110 volt). An optional propane water heater is available, which will probably allow for longer shower time. RV water heaters have small tanks, so it's important to have a powerful burner.

The propane heater is mounted under a bunk and vented directly to the outside. It is serviced through a hatch from the outside. This should make it okay to use. (People with MCS have used similar setups in Airstream trailers.)

The water comes from a small tank under the trailer. A small 12 volt pump generates the water pressure as the water is used.

There are two options for the commode: a conventional plastic model where the waste goes directly to a *blackwater* holding tank, which has to be dumped every couple of days (either to a septic system, dump station or sewage caddy).

There is also a *recirculating* commode where a part of the waste goes to a special tank where it sits in a soup of disinfectants for three days before it is reused to flush the toilet. This recycling allows for several days between dumping the blackwater tank, but the chemicals involved make this problematic for people with MCS. Perhaps non-toxic disinfectants are available, but this is best avoided. The manufacturer may discontinue this system in the future, as it is not popular.



The tiny bathroom in the truck mounted CampLite model.

Electrical

The trailers have wiring for both 120 volt AC and 12 volt DC. There is a space for a single marine/RV battery to be mounted on the outside, next to the optional propane tank. The battery can be charged from an electrical outlet or by installing a small solar system.

The 120 volt AC system is only live when the trailer is connected to power from the outside, unless an inverter is installed.

The shore power cable is usually 30 amps, which would not allow the use of more than two appliances at the same time. It would require some juggling if using electric heat, electric stove, electric water heater, AC, etc.

Cooking

Cooking can be done inside on an electric hot plate or outside on a propane camping stove. Cooking inside using the optional propane stove is not a good idea because of the fumes.



The 11 ft trailer is a lightweight room on wheels.





Inside the 11 ft trailer without a bathroom (2011 model), showing the dining area in the rear and the bunk beds in the front. This one has shiny aluminum walls.

Models

There are several models available. The smallest is only 11 ft (3.5 m) long and 7 ft (2.3 m) wide inside the compartment. The ceiling height is 6 ft, 3 inches (1.9 m).

Note that most other manufacturers pad their size numbers by specifying the overall length of the whole trailer, including the tongue-hitch.

This model is basically a small bedroom on wheels. It does not have a bathroom, but it does have a sink and a tiny, tiny kitchen counter.

For travel, this trailer could possibly be used with a porta-potty, though the smell factor is an issue. Composting toilets have that problem too, plus they weigh a lot more and have mold issues. A more realistic use is to stay in a campground with bathrooms, or next to someone's house.

This tiny trailer weighs only 1200 lbs (700 kg) when it is totally empty. Fully loaded, it can weigh a maximum of 2500 lbs (1200 kg) gross weight, which makes it possible to tow it with a car or a van (check the car's instruction book to be sure).

Update: Some newer 11-ft models have a bathroom. They would then weigh more.

The largest camper model has an inside length of 16 ft (5.1 m) and width of 7 ft (2.3 m). Other manufacturers would call it a 20 ft trailer. Most other trailers of this size are about six inches wider than this one. The fully loaded weight is 4400 lbs (2000 kg), so a truck may be needed to pull it.

It comes with a tiny bathroom and a $3 \frac{1}{2}$ ft (1 m) long kitchen counter and sink.

All models have built-in seats or bunks. In some, the sturdy aluminum dining table can be lowered to be flat between the seats, providing a queen-sized bed.

There are various storage compartments overhead and under the seats/bunks, all with quality latches. Additional compartments are available.



The 2011 model truck-mounted CampLite



Inside the truck mounted model. This one has the plastic wallpaper.

A truck mounted version is available. It needs to be installed with extra fasteners added to the sides of the truck, but it can still be removed again. Some owners of truck campers leave them off for most of the year.

This model comes with a bathroom (see picture), a kitchen and a roomy sleeping area over the truck cab.

The truck mounted camper is heavy. Make sure the truck is capable of handling this load. Some people don't like how their truck handles with it mounted.



The camping/cargo trailers offer the largest living space. This one has a fold-out tent and all-aluminum walls.

The company also has a line of camping/cargo trailers, with a big ramp in the end. These are intended to haul dirt bikes, ATVs, etc. and also provide living quarters. These could also be used as living space for EIs.

The largest model has an inside length of 26 ft (8.4 m) and a width of 8.5 ft (2.7 m). (This would be called a 30-ft trailer by other manufacturers). Besides the ramp and space to park equipment, they are much the same as the campers. Some offer an outdoor shower.

All the above is for the 2011 model year. Later years may be different.

Options

There are a myriad of options over the basic models, which usually do not have any heating, A/C, range or refrigerator.

The optional roof-mounted A/C unit includes an electric space heater.

A propane furnace is available, but it is very unlikely it would be tolerable to people with MCS. Portable electric space heaters are the only viable option other than the electric heater built into the A/C unit.

Some cabinets are optional. Cabinets are usually a good idea to have as many of as possible in such a small space. They come with sturdy metal latches.

A conventional 110 volt refrigerator, or a propane fridge, is available. The propane fridge is vented directly to the outside, so it should be acceptable. It can also be run on 12 volt, but it consumes too much electricity to be run off the battery or solar panels.

People who are electrically sensitive may want to ask for a propane fridge without electronic controls. These are apparently no longer manufactured, but can be found used.

Other alternatives include:

- a five-day cooler with ice
- a 12 volt thermoelectric cooler
- a 12 volt refrigerator (SunDanzer or Stega models)

The Sun Danzer, Stega and thermoelectric cooler may not be tolerable to people who are electrically sensitive.

The MCS experience

The CampLite trailers have been a disappointment for the MCS community. When this article was first posted in February 2012, I was not aware of anyone with MCS who had bought one. Since then, at least seven people bought new CampLite trailers. All have reported problems tolerating them. I know three gave up offgassing their trailer and sold it again, the other four I don't know what happened.

Even when a trailer sat in the Arizona sun for two years with the windows open all the time, the trailer did not become inert.

I can only guess about what the problem is. The specs seem so promising, but the reality is that these trailers need years of offgassing. I don't know anybody who successfully offgassed one.

Overall comments

The four trailers I saw looked like they were built to last. I did not see flimsy doors, fittings, bunks, etc. It looked like a quality product that is not likely to fall apart within a few years. These are not cheap trailers. It seems that you'll get what you pay for, and they may keep their value better than the usual flimsy models.

The construction should minimize mold problems, which is a huge problem in regularly built trailers.

Trailers are notoriously hot in summer and cold in the winter. They have less insulation than houses, and since they are off the ground, there is more outside surface.

The CampLite trailers are well insulated compared to other trailers, but it is a trailer. It will not work well in a harsh climate, unless there is good heating/cooling. A carport is a good way to keep a trailer cooler in the summer.

People who do not own a truck may still be able to use these trailers. Someone could be hired to transport it from the dealer to a permanent site. If the trailer has to be moved between a summer and a winter site, that could also be done by hired help. This may be cheaper than owning a truck.

The larger models could be used for full-time living, where water, electricity and sewage is available. For remote living, it may be possible to use solar power, propane gas, trucked-in water and an outhouse.

Finding a remote site with a sewage hookup is difficult, so some people living in trailers use a sewage caddy to transport the sewage to a dump station or the septic system at a nearby house.

The smaller models can be used as a bedroom next to a house or for camping in campgrounds with restrooms.

The options to avoid are:

- recirculating toilet
- fold-out tents
- propane furnace
- plastic wall paper
- windows with vinyl screens
- Azdel cabinets
- lining of cabinets
- formica countertop
- black stuff under benches

I don't know whether the Azdel wallboard is important to avoid or not, though aluminum is probably the safest choice.

An optional spray-in insulation foam under the floor may be acceptable, depending on what they use. Several people with MCS are fine with isocyanurate foam (brand name: Great Stuff).

The water heater may need the insulation replaced, perhaps using Reflectix/Astro Foil.

Consider specifying which caulk they are to use, such as a 100% silicone caulk without biocides.

The manufacturer is very flexible in which options or items to put in and not put in. If buying a used trailer, the fold-out tents could be cut away and the furnace removed (cap gas line). The vinyl wall paper and Azdel wall board *may* be possible to seal with a painted on sealer, but it is much preferable to get a trailer without. The recirculating commode may be difficult to do something about.

Make sure to check

Make sure to check the materials and options yourself before buying. The models, designs and materials are likely to change over time. The ones I saw were all the 2011 model year, and I have included some second-hand info on some newer models.

If at all possible, go see a trailer yourself at a dealer before ordering one. The trailer will stink, but you can visually look for problems.

Make sure the salesperson you deal with is aware of your issues tolerating any odorous material inside the trailer, and ask them to list any non-aluminum materials used. Just understand that they are not MCS experts and they may overlook something. This is not an issue they normally deal with.

When the new trailer arrives

A new trailer will stink, no matter how carefully it is built and how many problematic materials have been omitted. There will still be caulks, plastics, glues, gaskets, etc. to off-gas.

Take care of simple problems first, such as removing the stinky cushions and shower hose. Then let the trailer air out with large amounts of fresh air going through it, 24/7. Maybe use a small fan and at least two open windows. Extra fans can be used inside to direct air to difficult areas, such as the bathroom. Make sure all cabinet doors are open.

Hold off trying to seal anything. It is best to let all materials off-gas freely for some months first.

Also hold off on difficult/expensive modifications. Some materials off-gas fast and furiously, and then become inert after some time — some caulks act that way. But some materials never off-gas, of course.

These are just my general suggestions. I have not offgassed a CampLite trailer myself, and I don't know what it will actually take to make one fully tolerable.

Trailers are very rarely as good as a well-built MCS house (which is also hard to find).

Web reference: www.livinlite.com

More information

This website has other articles about portable and temporary housing for people with MCS or EHS. They are available on www.eiwellspring.org/temporaryhousing.html.

February 2012, last updated 2017