

Heat Treatment for Controlling Bed Bugs

The use of heat to control pests is not a new concept in the pest management industry. For the last 20-25 years, heat has been used to control drywood termites as well as other structural pests. In recent years, heat has garnered renewed attention as a method to control bed bugs. The method has become widespread for bed bug control, with three basic types of heaters being employed: propane fueled devices, electric units powered by existing electrical circuits and electric units powered by portable generators. The equipment and fuel needed for thermal control requires specialized equipment that may require additional regulatory compliance measures. This document is intended to provide a summary overview of the regulations that pest management firms providing heat treatments should be aware of; however it should not be considered an exhaustive reference. Check with local fire code officials and Departments of Motor Vehicles to find out what additional regulations may apply to your situation.

US DOT Requirements for PMPs Transporting Heat Treatment Equipment or Supplies

PMPs performing bed bug heat treatments should be aware of federal and state commercial motor vehicle, motor carrier safety and hazardous materials transportation requirements. For instance, the weight of a typical pickup truck in combination with most trailers used to tow a heat treatment system exceeds 10,001 pounds (combined gross vehicle weight), the threshold for a myriad of commercial motor vehicle requirements.

While interstate and intrastate requirements may vary a bit, PMPs driving a vehicle and trailer in interstate commerce with a combined gross vehicle weight rating of more than 10,001 pounds are subject to commercial motor vehicle requirements such as registration, vehicle identification, and driver work-hour restrictions. Depending on individual states' own transportation rules, vehicles with a combined gross vehicle rating of more than 10,001 pounds might also be considered as "commercial" vehicles even when operating within their home states, if they travel beyond a statutory maximum distance from their home location.

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One of the first things PMPs using such equipment will likely be required to do is register with the Federal Motor Carrier Safety Administration and obtain a USDOT number. The required document to fill out and submit is Form MCS-150. The application and associated instructions can be accessed through the website below:

<http://www.fmcsa.dot.gov/registration-licensing/online-registration/onlineregdescription.htm>

The 10,001 pound threshold also triggers numerous other motor carrier safety requirements, including:

- Application/hiring requirements
- Medical certificate
- Hours of service
- Daily and periodic vehicle inspection reports

PMPs using propane driven heat treatment systems may be subject to even more regulatory requirements such as federal hazardous materials regulations and commercial driver's license requirements. Federal hazardous materials regulations (HMRs) exempt small quantities of hazardous materials (materials of trade) that are used in the course of a business offering and providing a service. Under the materials of trade exemption, persons transporting less than 220 pounds of propane are relieved of most HMRs.

HMRs also relieve persons transporting less than 1,001 pounds of propane from placarding requirements. This is very significant because placarding triggers a slew of additional mandates including commercial driver's license requirements. For starters, companies transporting 1,001 pounds of propane have to obtain Hazardous Materials Registration from the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration. Depending on the size of the company, fees range from \$250 to \$2,575, with a \$25 processing fee. Below is the website to access the online application and related information.

<http://www.phmsa.dot.gov/hazmat/registration>

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PMPs transporting 1,001 or more pounds of propane will also have to obtain a commercial driver's license with a hazardous materials endorsement and comply with several more CDL and HMR related regulations including HazMat endorsement threat assessment, drug and alcohol testing, emergency response information, shipping paper, placarding, marking, and hazmat employee training requirements.

For the industry's reference, NPMA has developed a chart to accompany this article to better crystallize the various transportation related requirements PMPs performing bed bug heat treatments may be subject to. For information pertaining to intrastate transportation requirements, which may differ significantly from federal interstate requirements, PMPs are strongly encouraged to go to their state Department of Motor Vehicle website. Click on the link below to access all 50 state DMV websites.

<http://www.dmv-department-of-motor-vehicles.com>

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**US DOT Requirements for PMPs
Table A**

**Transporting Heat Treatment Equipment or Supplies
By Gross Vehicle Weight and Hazardous Materials (Propane)**

(Note: The chart below reflects interstate transportation requirements. Interstate and intrastate requirements may vary so be sure to check with your state department of transportation

	GVWR < 10,001 lbs.	GVWR 10,001 to 26,000 lbs.	GVWR > 26,001 lbs.
Transporting None or < 220 lbs. of propane	None	Vehicle identification report/Application w/Federal Motor Safety Carrier Administration for US DOT # (Form MCS-150)/Renew every 24 months (49 CFR 390.19) Minimum financial responsibility (49 CFR 387.9)/Form MCS-90/\$1 million Hiring requirements (application questions, review of driver’s safety performance history, road test)(49 CFR 391, subpart B, C & D)	Commercial driver’s license Vehicle identification report/Application w/Federal Motor Carrier Safety Administration for US DOT # (Form MCS-150)/renew every 24 months (49 CFR 390.19) Minimum financial responsibility (49 CFR 387.9)/Form MCS-90/\$1 million Hiring requirements (application questions, review of driver’s safety performance history, road test) (49 CFR 391, subpart B, C & D)

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		<p>Medical qualification/certificate (49 CFR 391, subpart E)</p> <p>Hours of service limits (49 CFR 395 et al.)</p> <p>Fire extinguisher (49 CFR 398.4)</p> <p>Pre & documented post-trip inspection/Daily driver vehicle inspection report (49 CFR 396.11)</p> <p>Stopped vehicle warning devices (reflective triangles)</p> <p>Brakes on trailers weighing > 3,000 lbs</p> <p>Periodic (annual) inspections (49 CFR 396.17)</p> <p>Inspection report retention (49 CFR 396.21)</p> <p>Stop at all railroad grade crossings (49 CFR 392.10)</p> <p>Texting/Radar detectors prohibited (49 CFR 392.10)</p>	<p>Medical qualification/certificate (49 CFR 391, subpart E)</p> <p>Hours of service limits (49 CFR 395 et al.)</p> <p>Fire extinguisher (49 CFR 398.4)</p> <p>Pre & documented post trip inspection/Daily driver vehicle inspection report (49 CFR 396.11)</p> <p>Stopped vehicle warning devices (reflective triangles)</p> <p>Brakes on trailers weighing > 3,000 lbs</p> <p>Periodic (annual) inspections (49 CFR 396.17)</p> <p>Inspection report retention (49 CFR 396.21)</p> <p>Stop at all railroad grade crossings (49 CFR 396.10)</p> <p>Texting/Radar detectors prohibited (49 CFR 392.80 & 49 CFR 392.71))</p>
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<p>Transporting 221 to 1,000 lbs. of propane</p>	<p>Hazardous Materials Regulations, including immediate telephonic report of hazardous materials incident (49 CFR 171.15) & subsequent submission of a written Hazardous Materials Incident Report (DOT Form F 5800.1)(49 CFR 171.16), shipping paper (49 CFR 172, subpart C), marking (49 CFR 172, subpart D), emergency response information (49 CFR 172, subpart G) & employee HazMat training (49 CFR 172, subpart H) requirements</p>	<p>Vehicle identification report/Application w/Federal Motor Carrier Safety Administration for US DOT # (Form MCS-150)/Renew every 24 months (49 CFR 390.19)</p> <p>Minimum financial responsibility (49 CFR 387.9)/Form MCS-90/\$1 million</p> <p>Hiring requirements (application questions, review of driver’s safety performance history, road test) (49 CFR 391, subpart B, C & D)</p> <p>Medical qualification/certificate (49 CFR 391, subpart E)</p> <p>Hours of service limits (49 CFR 395 et al.)</p> <p>Fire extinguisher (49 CFR 398.4)</p> <p>Pre & documented post-trip inspection/Daily driver vehicle inspection report (49 CFR 396.11)</p> <p>Stopped vehicle warning devices (reflective triangles)</p>	<p>Commercial driver’s license w/HazMat endorsement/Transportation Security Administration required HazMat endorsement threat assessment/criminal background check</p> <p>Vehicle identification report/Application w/Federal Motor Carrier Safety Administration for US DOT #/(Form MCS-150)/Renew every 24 months (49 CFR 390.19)</p> <p>Minimum financial responsibility (49 CFR 387.9)/Form MCS-90/\$1 million</p> <p>Medical qualification/certificate (49 CFR 391, subpart E)</p> <p>Hours of service limits (49 CFR 395 et al.)</p> <p>Fire extinguisher (49 CFR 398.4)</p> <p>Pre & documented post trip inspection/Daily driver vehicle inspection report (49 CFR 396.11)</p> <p>Stopped warning devices (reflective triangles)</p> <p>Brakes on trailers weighing >3,000 lbs</p>
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		<p>Brakes on trailers weighing > 3,000 lbs</p> <p>Periodic (annual) inspections (49 CFR 396.17)</p> <p>Inspection report retention (49 CFR 396.21)</p> <p>Stop at all railroad grade crossings (49 CFR 392.10)</p> <p>Texting/Radar detectors prohibited (49 CFR 392.80 & 49 CFR 390.71)</p> <p>Hazardous Materials Regulations, including immediate telephonic report of hazardous materials incident (49 CFR 171.15) & subsequent submission of a written Hazardous Materials Incident Report (DOT Form F 5800.1)(49 CFR 171.16), , shipping paper (49 CFR 172, subpart C), marking (49 CFR 172, subpart D), emergency response information (49 CFR 172, subpart G) & employee HazMat training (49 CFR 172, subpart H) requirements</p>	<p>Periodic (annual) inspections (49 CFR 396.17)</p> <p>Inspection report retention (49 CFR 396.21)</p> <p>Stop at all railroad grade crossings (49 CFR 392.10 & 49 CFR 398.4)</p> <p>Texting/Radar detectors prohibited (49 CFR 392.80 & 49 CFR 392.71)</p> <p>Hazardous Materials Regulations, including immediate telephonic report of hazardous materials incident (49 CFR 171.15) & subsequent submission of a written Hazardous Materials Incident Report (DOT Form F 5800.1)(49 CFR 171.16), shipping paper (49 CFR 172, subpart C) marking (49 CFR 172, subpart D), emergency response information (49 CFR 172, subpart G), & employee HazMat training (49 CFR 172, subpart H) requirements</p>
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<p>Transporting > 1,001 lbs. of propane</p>	<p>Commercial driver’s license w/HazMat endorsement/Transportation Security Administration required HazMat endorsement threat assessment/criminal background check</p> <p>Drug & alcohol testing (49 CFR 382 et al. & 49 CFR 40 et al.)</p> <p>Vehicle registration/Application w/Federal Motor Carrier Safety Administration for US DOT # (Form MCS-150) (49 CFR 390.19)</p> <p>Minimum financial responsibility (49 CFR 387.9)/Form MCS-90/\$1 million</p> <p>Hiring requirements (application questions, review of driver’s safety performance history, road test)(49 CFR 391, subpart B, C & D)</p> <p>Medical qualification/certificate (49 CFR 391, subpart E)</p> <p>Hours of service limits (49 CFR 395 et al.)</p>	<p>Commercial driver’s license w/HazMat endorsement/Transportation Security Administration required HazMat endorsement threat assessment/criminal background check</p> <p>Drug & alcohol testing (49 CFR 382 et al. & 49 CFR 40 et al.)</p> <p>Vehicle registration/Application w/Federal Motor Carrier Safety Administration for US DOT # (Form MCS-150) (49 CFR 390.19)</p> <p>Minimum financial responsibility (49 CFR 387.9)/Form MCS-90/\$1 million</p> <p>Hiring requirements (application questions, review of driver’s safety performance history, road test) (49 CFR 391, subpart B, C & D)</p> <p>Medical qualification/certificate (49 CFR 391, subpart E)</p> <p>Hours of service limits (49 CFR 395 et al.)</p>	<p>Commercial driver’s license w/HazMat endorsement/Transportation Security Administration required HazMat endorsement threat assessment/criminal background check</p> <p>Drug & alcohol testing (49 CFR 382 et al. & 49 CFR 40 et al.)</p> <p>Vehicle registration/Application w/Federal Motor Carrier Safety Administration for US DOT # (Form MCS-150) (49 CFR 390.19)</p> <p>Minimum financial responsibility (49 CFR 387.9)/Form MCS-90/\$1 million</p> <p>Hiring requirements (application questions, review of driver’s safety performance history, road test) (49 CFR 391, subpart B, C & D)</p> <p>Medical qualification/certificate (49 CFR 391, subpart E)</p> <p>Hours of service limits (49 CFR 395 et al.)</p> <p>Fire extinguisher (49 CFR 398.4)</p> <p>Pre & documented post trip inspection/Daily driver vehicle</p>
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	<p>Fire extinguisher (49 CFR 398.4)</p> <p>Pre & documented post-trip inspection/Daily driver vehicle inspection report (49 CFR 396.11)</p> <p>Stopped vehicle warning devices (reflective triangles)</p> <p>Brakes on trailers weighing > 3,000 lbs</p> <p>Periodic (annual) inspections (49 CFR 396.17)</p> <p>Inspection report retention (49 CFR 396.21)</p> <p>Stop at all railroad grade crossings (49 CFR 392.10 & 49 CFR 398.4)</p> <p>Texting/radar detectors prohibited (49 CFR 392.80 & 49 CFR 390.71)</p> <p>Hazardous Materials Regulations, including registration (DOT Form F 5800.2)(49 CFR 107, subpart G & H), immediate telephonic report of hazardous materials incident (49 CFR 171.15) & subsequent</p>	<p>Fire extinguisher (49 CFR 398.4)</p> <p>Pre & documented post-trip inspection/Daily driver vehicle inspection report (49 CFR 396.11)</p> <p>Stopped vehicle warning devices (reflective triangles)</p> <p>Brakes on trailers weighing > 3,000 lbs</p> <p>Periodic (annual) inspections (49 CFR 396.17)</p> <p>Inspection report retention (49 CFR 396.21)</p> <p>Stops at all railroad grade crossings (49 CFR 392.10 & 49 CFR 398.4)</p> <p>Texting/radar detectors prohibited (49 CFR 392.80 & 49 CFR 390.71)</p> <p>Hazardous Materials Regulations, including registration (DOT Form F 5800.2)(49 CFR 107, subpart G & H), immediate telephonic report of hazardous materials incident (49 CFR 171.15) & subsequent submission of a written Hazardous Materials Incident Report (DOT</p>	<p>inspection report (49 CFR 396.11)</p> <p>Stopped vehicle warning device (reflective triangles)</p> <p>Brakes on trailers weighing > 3,000 lbs</p> <p>Periodic (annual) inspections (49 CFR 396.17)</p> <p>Inspection report retention (49 CFR 396.21)</p> <p>Stop at all railroad grade crossings (49 CFR 392.10 & 49 CFR 398.4)</p> <p>Texting/Radar detectors prohibited (49 CFR 392.80 & 49 CFR 390.71)</p> <p>Hazardous Materials Regulations, including registration (DOT Form F 5800.2)(49 CFR 107, subpart G & H), immediate telephonic report of hazardous materials incident (49 CFR 171.15) & subsequent submission of a written Hazardous Materials Incident Report (DOT Form F 5800.1)(49 CFR 171.16), shipping paper (49 CFR 172, subpart C), marking 49 CFR 172, subpart D), placarding (49 CFR 172, subpart F), emergency response information (49</p>
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	submission of a written Hazardous Materials Incident Report (DOT Form F 5800.1)(49 CFR 171.16), shipping paper (49 CFR 172, subpart C), marking (49 CFR 172, subpart D), placarding (49 CFR 172, subpart F), emergency response information (49 CFR 172, subpart G) & employee HazMat training (49 CFR 172, subpart H) & route restriction requirements	Form F 5800.1)(49 CFR 171.16), shipping paper (49 CFR 172, subpart C), marking (49 CFR 172, subpart D), placarding (49 CFR 172, subpart F), emergency response information (49 CFR 172, subpart G) & employee HazMat training (49 CFR 172, subpart H) & route restriction requirements	CFR 172, subpart G) & employee HazMat training (49 CFR 172, subpart H), & route restriction requirements
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