Vehicle Setup

In the setup your delivery vehicles there's a very clear difference in setting up the vehicle transporting hazardous materials depending upon the weight that is being transported. The line of demarcation for determining how to set up your vehicle includes the amount of material you are carrying, and the type of specification of the containers.

For example, the requirements for carrying and transporting less than a thousand pounds of oxygen, including the containers, are different than if your carrying more than a thousand-pounds. Another set of regulations apply if the containers are the type of specification which is other than DOT. Next lets cover requirements for vehicles carrying less than 1000 lbs. of hazardous materials. There are hazardous material requirements for setting up any vehicle.

Determining the weight of oxygen on board

In order to determine the weight being transported one must take the weight of the hazardous material plus the weight of the container or vessel in which it is held.

No Smoking

Of course no one should smoke in or around the vehicle transporting oxygen. Further we recommend that all vehicles transporting oxygen have no-smoking signs posted within the vehicle. No-smoking signs should also be displayed outside of the vehicle or in the windows. The vehicle cigarette lighter and ash tray should be removed.

Vehicles carrying less than 1000 pounds

A vehicle carrying less than one thousand pounds of hazardous material is not required to display any placards on the vehicle unless the gross weight of the vehicle is over ten thousand pounds. If the gross weight of the vehicle is over ten thousand pounds than the vehicle is considered a commercial vehicle. All vehicles transporting hazardous materials must have proper license plates or stickers as required by the state in which they are registered.
**Driver Requirements**

The driver of the vehicle must have a proper and current driver's license. Proof of insurance must be kept on board the vehicle and must be current. Any additional hazmat endorsements or requirements that may be required by the state in which the vehicle is registered or operated should be kept on board.

**Hazmat Requirements**

As an example, if the state in which the vehicle is registered does not require any additional hazmat endorsements but the vehicle is operated in an adjacent state that does require hazmat since the vehicles must have these endorsements on board.

**U.S. DOT Requirements**

Additionally if the vehicle is conducting interstate commerce the U.S. DOT motor carrier identification number must be displayed in the appropriate manner. Any hazardous material carrier must have full identification numbers displayed. If the vehicles over ten thousand pounds in gross weight or if it is carrying over one thousand pounds of hazardous material the vehicle must have complete identification numbers posted. U.S. DOT regulation 49 CFR chapter 1 the October 1st, 2005 edition, requires no matter how much oxygen is being transported all materials must be secured to the vehicle as to prevent the cylinders or cryogenic vessels from movement, shifting, or ejection during normal transportation. Any carts racks and or carriers used to transport cylinders or vessels during the delivery process, at the patient’s home, or within the vehicle, are also required to be secured to the vehicle during transport.

**Transport Recommendation**

It’s recommend that cylinders and cryogenic vessels being transported be secured to prevent them from being expelled from any racking in the event of a rollover accident. This type of racking will also help prevent the cylinders from ejection from a rack in the event of pressure relief disc rupture.

**Compromised Cylinders**

Cylinders and cryogenic vessels have safety relief devices that could vent at any time causing them to shift move are even flying around the vehicle. Next, if a cylinder was thrown from its rack and the valve of the cylinder with compromised and broken. The cylinder would then become like a guided missile that can cause serious damage or injury. Full cylinders can accelerate to sixty miles per hour in less than a quarter of a second when they're valve has been compromised from falls that impact the valve, accidents or defects.

**Basic Safety Equipment**

All vehicles transporting hazardous material should carry basic safety equipment we recommend that a fire extinguisher must be equipped on-board the vehicle. The fire extinguisher must be secured to the vehicle during operation. Further, the fire extinguisher must have at least a 10-bc rating. Testing of the
Fire extinguisher must be performed at least once every twelve months and be documented. Although is not required to be discharged. Next, it is recommended at least three bi-directional reflective triangles be carried on board. It is also recommended that it transportation Incident or accident reporting kit including paper, pencils, camera, and information how to deal with an incident or accident. Additionally it is recommended that a first aid kit be carried on board.

- Fire Extinguisher
- Reflective Triangles
- Accident Report Kit
- First Aid Kit

Proper documentation and paperwork required on board the vehicle

This paperwork must be kept within the reach of the driver when he or she is seat belted behind the wheel of the vehicle. The first item that's required to be kept on board any vehicle transporting hazardous materials is the shipping papers. Shipping papers may be referred to as Manifest and the Route Sheet. Be aware that this document is not only required but may be considered the most important document on the vehicle. Shipping papers must be completed and kept in the appropriate manner as determined by the U.S.DOT or transport Canada.

Hazmat Pocket Book

A hazmat pocketbook is one source for the proper format of shipping papers. This book is updated monthly.

N A E R G Pocket Book

The next document that is required to be kept on board the vehicle is emergency response information that details and describes that hazardous material that is being transported, immediate hazards to health that could be posed by the material, precautions and actions to take in the event of an incident, risks of fire or explosion, and immediate methods for handling fires. This information can be listed out by the person transporting hazardous material but the easiest manner in which to provide this information is by carrying the North American Emergency Response Guide abbreviated N-A-E-R-G. This book provides all information required and is updated every four years.

Hazardous Materials Compliance Pocket Book

It's also recommended that a complete hazardous material listing table be kept on board. Once again the person transporting the hazardous material can list out the table, but the easiest manner in which to provide this information is by carrying that hazardous material pocketbook. This book is again updated monthly although it is only required that you have a book that was published within the last two years.
Manifest, Route Sheet and Shipping Documents

The shipping manifest or shipping documents are critical documents and are designed in the event of transportation incident to alert first responders of the quantity and description of the hazardous materials on-board the vehicle. As such these documents follow a specific and prescribed format that can be quickly and easily understood by the first responder anywhere in North America.

Preparation and Retention of a Hazardous Materials Shipping Manifest

Any person or firm transporting any quantity of hazardous materials is required to carry proper shipping papers. Shipping paper for the purpose of hazardous material declaration is defined as any shipping document whose purpose is to communicate a hazard, and conforms to the guidelines contained in the code of federal regulations or CFR. Shipping papers may be in the form of a manifest and Route Sheet or any other form as long as all of the required information is included and all regulations adhered to.

<table>
<thead>
<tr>
<th>Number of packages</th>
<th>Type of package</th>
<th>Description of articles</th>
<th>Hazard Class</th>
<th>IN Number</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Cylinder</td>
<td>Oxygen compressed</td>
<td>2.2 (5.1)</td>
<td>UN 1072</td>
<td>500 lbs.</td>
</tr>
</tbody>
</table>

Emergency Phone # 888-Get Help

Shipping Papers must include:

- All information must be legible & printed in English
- Proper shipping name to the hazardous materials table
- Emergency Response Telephone Number
- Hazard Class of the material
- The Identification Number
- The total quantity by weight and volume
- Measuring unit for type of packaging
- If more than on page, pages must be numbered

All required information on a manifest must be legible and printed in English. The proper shipping name of the material must be listed as it appears in the hazardous materials table.

Emergency Response Number

The emergency response telephone number must be shown on the shipping manifest. This telephone number must be answered by a person trained or knowledgeable about handling a transportation incident. Whenever the vehicle is on the road it is not permissible to allow the emergency number to lead to an answer machine, answering service, pager service, or call back number. In some manner the emergency telephone number must be answered while the vehicle carrying hazardous material, in this case oxygen is on the road. The number must be answered by a person who can then directly aid to the person calling. If the vehicle is on the road twenty four hours a day in seven days a week emergency response phone number must be staff twenty four seven.
Hazmat Oxygen Identification Requirements

The hazard class for the material must be listed to the hazmat table that hazard class of oxygen including medical oxygen is 2.2. This signifies nonflammable gas. The hazard class must also include any subsidiary hazard class. Oxygen is part of the subsidiary hazard class 5.1, because it is an oxidizer. Consequently hazard class 5.1 must appear along with the main hazard class. The identification number of the material must also be listed on the manifest which designates the material but specific product number. The identification number must be pursued by either UN or NA as appropriate. Oxygen in the compressed gas form has an identification number of UN1072. If the oxygen is in this liquefied or cryogenic form it has an identification number of UN1073.

How to Document Cylinder Count on Manifest

The total quantity of hazardous material by weight or volume normally must be listed on the manifest. When transporting compressed gas cylinders however one may simply list the total number of cylinders that are being transported as a unit number. Compressed gas cylinders are not required to be listed by weight or volume, CFR 172.202. The quantity should include all material that is being transported. Units of measurement to list the quantity would include liters, cubic feet, gallons, pounds, etc. The type of packaging must also be included on the manifest. For most oxygen transportation the packaging will be cylinders for compressed gas or doers for refrigerated oxygen. Some specialized large shipments of oxygen may also be listed as bulk packaging. Bulk packaging is defined as anything greater than one hundred nineteen gallons of cryogenic or liquefied gases. If bulk packaging is being transported than the proper UN number for the material must be displayed on the vehicle and on the storage tank.

Shipping Papers

The shipping manifest or shipping paper must contain a statement that certifies that the shipment has been properly classified, packed, marked, described, labeled, and is in proper condition to transport. If the shipping papers are stored with several other documents it must be the top document. The shipping papers must be stored within the drivers reach when the driver's is seat belted within the seat. When the driver is away from the vehicle the shipping papers must remain with the vehicle either in the front seat or in the driver's door. Shipping papers should be retained in the head office for a period of two years.

Setup in the Truck

- There's one small pocket size booklet that contains information that is required to be on board when transporting hazardous materials.
- Emergency response information specific to the hazardous material that is being transported is required to be contained with the shipping papers. This information is contained within the North American Emergency Response Guide or any N A E R G.
- The information details, the hazard material description, immediate hazards to health, actions, and precautions in the event of an accident.
- Methods for handling fires and risk for fire and explosion.
The information is important and it's designed to allow the first responders to the scene of an accident to recognize how to deal with the particular hazardous material that is on board the vehicle. Another pocket size book has recommended to be kept on board the vehicle is the hazmat book. This book includes a listing of all hazardous material in the hazardous materials table as with the N A E R G book. This book allows the first responders to the scene of an accident, to be able to recognize what material is on-board the vehicle, and how to react to that material. The books must be kept within reach of the driver when seat belted to the seat.

**Deliver Technician Competency Requirements**

Further the driver of the vehicle that transports for delivery purposes, again any quantity of hazardous material, must be able to demonstrate to any law enforcement Officer their familiarity and how to properly Use the N A E R G.