

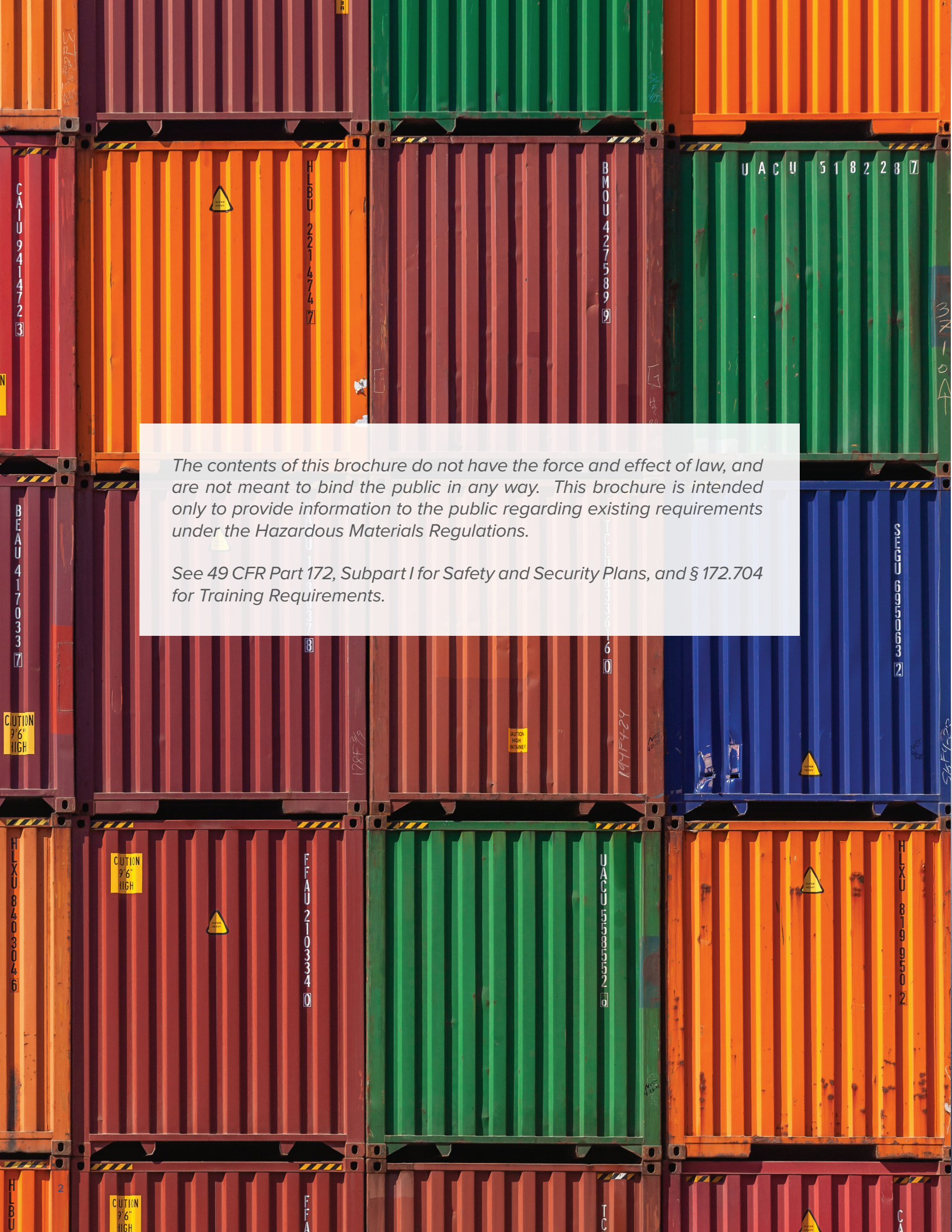


U.S. Department
of Transportation
**Pipeline and
Hazardous Materials
Safety Administration**



SECURITY REQUIREMENTS

and Considerations for Hazardous Materials Transportation



The contents of this brochure do not have the force and effect of law, and are not meant to bind the public in any way. This brochure is intended only to provide information to the public regarding existing requirements under the Hazardous Materials Regulations.

See 49 CFR Part 172, Subpart I for Safety and Security Plans, and § 172.704 for Training Requirements.

TABLE OF CONTENTS

SECTION 01: DO I NEED A SECURITY PLAN?

Do I Need a Security Plan? 05

SECTION 02: WHAT MUST MY SECURITY PLAN INCLUDE?

What to Include 08

Roles and Responsibilities 08

How Do I Get Started On My Security Plan? 09

SECTION 03: WHICH SECURITY MEASURES TO INCLUDE

Personnel Security 11

Unauthorized Access 12

En Route Security 13

SECTION 04: TRAINING REQUIREMENTS

Training Requirements 16



3082

9



3

1824

8



SECTION 01

DO I NEED A SECURITY PLAN?

3

5



The Department of Transportation’s (DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA) is responsible for the safe and secure transportation of hazardous materials (hazmat). Millions of tons of hazmat are safely transported by air, rail, highway, or vessel every day, in quantities ranging from several ounces to thousands of gallons. While essential, these materials pose inherent safety risks in transportation, which is why they are regulated under the Hazardous Materials Regulations ([HMR; 49 CFR Parts 171 - 180](#)). For certain quantities and types of hazmat, security measures are required to ensure the safety of shippers, carriers, and the general public.

This resource explains: when you need a security plan, how to make a security plan and what it should include, who manages the logistics around the security plan, and the necessary training requirements for commercial hazmat.

DO I NEED A SECURITY PLAN?

You **must** develop and implement a security plan if you offer for transportation or transport the types or quantities of hazmat listed in the table below (§ 172.800(b)).

ARE YOU A FARMER?

See § 172.800(c) for details on the agricultural exception.

HAZARD CLASS / HAZARD DIVISION	THRESHOLD FOR SECURITY PLAN
1.1: Explosives	Any quantity
1.2: Explosives	Any quantity
1.3: Explosives	Any quantity
1.4: Explosives	A quantity requiring placarding**
1.5: Explosives	A quantity requiring placarding**
1.6: Explosives	A quantity requiring placarding**
2.1: Flammable Gas	A large bulk quantity*
2.2: Non-Flammable/Non-Poisonous Gas	A large bulk quantity of materials with an oxidizer (Div. 5.1) subsidiary hazard*
2.3 Gas, Poisonous by Inhalation	Any quantity

HAZARD CLASS / HAZARD DIVISION	THRESHOLD FOR SECURITY PLAN
3: Flammable Liquid	Packing Group (PG) I and II in a large bulk quantity; placarded quantity desensitized explosives. Security plan not required for PG III, or less than 3,000 L (792 gallons) PG I or II except for desensitized explosives*
4.1: Flammable Solid	A quantity of desensitized explosives requiring placarding**. Security plan not required except for desensitized explosives in a placarded quantity
4.2: Spontaneously Combustible Material	PG I and II in a large bulk quantity. Security plan not required for PG III, or less than 3,000 kg (6,614 lbs.) PG I or II*
4.3: Dangerous When Wet Material	A quantity requiring placarding**
5.1: Oxidizer	Large bulk quantity of Division 5.1 materials in PG I and II, and PG III perchlorates, ammonium nitrate, ammonium nitrate fertilizers, or ammonium nitrate emulsions or suspensions or gels in a large bulk quantity*
5.2: Organic Peroxide	Security plan only required for any quantity of organic peroxide, Type B, liquid or solid, temperature controlled
6.1: Poisonous Material	A large bulk quantity of a Div. 6.1 Poisonous material, and any quantity of a poisonous by inhalation material (see Div. 2.3, above)*
6.2: Infectious Substance	Select agents or toxins regulated by the Centers for Disease Control and Prevention (42 CFR part 73) or the U.S. Department of Agriculture (9 CFR part 121)
7: Radioactive	Security plan only required for Class 7 materials that pose transportation security risk: IAEA Categories 1 & 2; HRCQ; known radionuclides in forms listed as RAMQC by NRC; or a quantity of uranium hexafluoride requiring placarding under § 172.505(b)
8: Corrosive Material	PG I in a large bulk quantity; security plan not required for PG II or III materials*
9: Miscellaneous Hazmat	Security plan not required for Class 9 materials

* "Large bulk quantity" refers to a quantity greater than 3,000 kg. (6,614 lbs.,) for solids or 3,000 liters (792 gal.,) for liquids and gases in a single packaging such as a cargo tank motor vehicle, portable tank, tank car, or other bulk container.

** Placarding quantities defined in 49 CFR, Part 172, Subpart F



12

SECTION 02

WHAT MUST MY SECURITY PLAN INCLUDE?



DO YOU TRANSPORT HAZMAT BY RAIL?

See § 172.820 for additional planning requirements for transportation by rail.

WHAT TO INCLUDE

Your security plan **must** include the following (§ 172.802):

- Security assessment
- Personnel security
- Unauthorized access
- En route security
- The job title of the senior official responsible for developing/implementing the security plan
- Specific security duties for each position/department responsible for implementing any part of the plan
- The process for notifying employees when specific elements of the plan are triggered
- A plan for training hazmat employees.

ROLES AND RESPONSIBILITIES (§ 172.802(c) - (d))

- **Official in charge of developing and implementing the security plan must:**
 - Write out the plan
 - Retain the plan as long as it is in effect
 - Maintain copies of the plan, either paper or electronic, that are readily available upon request at the site for authorized Department of Transportation and Department of Homeland Security officials
 - Review the plan at least annually
 - Revise and/or update as necessary.
- **Employees responsible for carrying out parts of the plan must:**
 - Have access to their relevant portions of the most current security plan
 - Be notified of any updates and revisions to the plan.

HOW DO I GET STARTED ON MY SECURITY PLAN?

To develop, implement, and improve a security plan, you need to gather as much data as you can about your own operations and those of other businesses with similar to yours. Then, develop a plan for communications with peers and local law enforcement to share best practices and lessons learned. After sharing information, you can determine possible patterns and revise your security plans as necessary.

The first step is **doing a security assessment**, which includes the following:

- **Scoping** – identify the types of hazmat you handle, their quantities and the modes of shipment used.
- **Knowledge of operations** – collect detailed information about your transportation operations, including:
 - Baseline security programs
 - Current security procedures
 - Related safety programs and procedures.
- **Assessment** – analyze potential security threats and identify security risks by reviewing your current activities and operations from a transportation security perspective. Ask yourself, “*What are we doing now? What could go wrong? What can we do differently?*”
- **Writing the plan** – write a comprehensive summary.
- **Action** – implement your security plan.
- **Verification** – monitor the implementation of your security plan.
- **Evaluation** – determine if goals are being met.

To help, you can use

PHMSA's Risk Management Self-Evaluation Framework Security Template

available at PHMSA's Program Management, Data, and Statistics page.



HAZARDOUS CHEMICAL

CHEMICAL NAME:

HAZARDOUS CLASSIFICATION



CLASS 1-Explosives

CLASS 2-Gases

CLASS 3-Flammable liquids

CLASS 4-Flammable solids

CLASS 5-Oxidizers

CLASS 6-Toxic materials

CLASS 7-Radioactive materials

CLASS 8-Corrosive materials

CLASS 9-Miscellaneous dangerous goods

DANGEROUS- Indicates a mixed load of hazardous materials

SECTION 03

SECURITY MEASURES TO INCLUDE

REACTIVITY
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The following describes the required elements for a security plan (listed in § 172.802) and suggestions to bolster your facility's security. At a minimum, a security plan must address *personnel security*, *unauthorized access*, and *en route security*.

PERSONNEL SECURITY

Be aware of the possibility that your current and former staff may pose a potential security risk. You should establish a process to confirm and verify information provided by potential hazmat employees, which may include personal references.

You must ensure your employees are familiar with your security plan (per § 172.704(a)(4) and (a)(5)—see the “Training” section, below). You also must ensure your employees are properly trained to implement the plan. Training your employees on your security plan should include the following components:

- Company security objectives
- Specific security procedures
- Employee responsibilities
- Organizational security structure.

In addition, you should supplement your security plan training with these actions:

- Encourage your employees to report suspicious incidents or events.
- Implement routine security inspections.
- Convene regular employee/management meetings on security measures and awareness.
- Communicate with your staff using an *internal communication system* to provide information on facts, trends, and other security issues.



UNAUTHORIZED ACCESS

You must address the risk that unauthorized persons may gain access to your hazmat, both in transportation and at your facility (§ 172.802(a)(2)). Consider using one or more of the following security measures to prevent unauthorized access:

1. Establish partnerships with local law enforcement officials, emergency responders, and other public safety agencies with jurisdiction over your facility.

- Through such relationships, you can exchange information about threats, trends, and best practices of security programs.
- Request local law enforcement and fire safety officials to review your facility and security program.
- Keep information related to your facility and the materials you handle on a need-to-know basis. Inform all parties and individuals with this information to limit any disclosure.
- Request law enforcement personnel to increase off-hour patrols.
- Report any suspicious incidents or individuals to the proper law enforcement officials.

2. Bolster your facility's security with additional resources and processes.

- Add security guards and increase off-hour patrols by private security personnel.
- Conduct frequent facility site inspections.
 - Check the adequacy of locks.
- Upgrade your facility's infrastructure.
 - Equip access gates with timed closure devices.
 - Install additional lights, alarm systems, and surveillance cameras.
- Improve your equipment and processes to better increase the security of your hazmat.
 - Restrict access to a single entry or gate.
 - Secure hazmat in locked buildings or fenced areas.
 - Institute a sign-out system for keys.
 - Secure valves, manways, and other fixtures on transportation equipment when not in use.
 - Lock all vehicle and delivery trailer doors when not in use.
 - Use tamper-resistant or tamper-evident seals and locks on cargo compartment openings.
 - Secure all rail, truck, and intermodal containers when stored at your location.
- Periodically take inventory of your hazmat on site and protective equipment to determine any theft.
- Keep records of security incidents. Review records to identify trends and potential vulnerabilities.

EN ROUTE SECURITY

Transportation security is a shared function among shippers and carriers. We encourage shippers and carriers to implement the following measures:

- **Assess the carrier.**
 - Research carrier safety ratings, assessments, safety surveys, and audits.
 - Ask the carrier to provide information on security measures it has implemented.
- **Verify information from the carrier.**
 - Verify the carrier's employee hiring and review process, including
 - Employee background checks
 - Their on-going security training program.
 - Verify the identity of the carrier and/or driver when loading and off-loading hazmat.
 - Ask the driver for photo identification and a commercial driver's license for comparison with information provided by the carrier.
 - Confirm with the driver for the name of the consignee and the hazmat's destination with your own records before releasing shipments.
 - Upon delivery, check the carrier's photo identification and commercial driver's license with the shipping documents provided by the shipper.
- **Plan for unexpected circumstances en route.**
 - Establish a communication system with transport vehicles and operators, including a crisis communication system with primary and backup means of communication among the shipper, carrier, law enforcement, and emergency response officials.
 - Implement a system for a customer to alert the shipper for any hazmat shipment delays.
 - Use tracking and surveillance technology to your hazmat shipments.
 - Identify preferred and alternative routing and route deviations.
 - Minimize hazmat transport through communities.
 - Avoid tunnels and bridges where possible.
 - Minimize stops en route.
 - If you must stop, select locations with adequate lighting on well-traveled roads.
 - Check your vehicle after each stop to spot any tampering.
 - Consider using two drivers or driver relays to minimize stops during the trip.
 - Shippers and rail carriers should cooperate to assure the security of rail cars stored temporarily on leased tracks.

- Avoid layovers, particularly for high-hazard materials.
 - If materials must be stored during transportation, make sure they are stored in secure facilities.
 - Train drivers on how to avoid hijacking or stolen cargo; keep vehicles locked when parked and avoid casual conversations with strangers about cargo and routes.
- Secure the vehicle of transport:
 - Consider whether a guard or escort for a specific shipment of hazmat is appropriate.
 - Install tractor and trailer anti-theft devices.
 - Install tamper-proof seals on all valves, package, or container openings.
- Report any suspicious incidents or individuals to law enforcement.
 - Get to know your customers and their hazmat programs. If you suspect you have shipped or delivered hazmat to someone who may intend to use it for a criminal purpose, notify proper law enforcement officials, such as the FBI or ATF.





SECTION 04

TRAINING REQUIREMENTS



TRAINING REQUIREMENTS

Because your company must have a security plan, each hazmat employee who is responsible for any portion of the security plan must receive in-depth training. This training includes an awareness of the security risks associated with hazmat transportation and methods to enhance transportation security in accordance with § 172.704(a)(4) and (a)(5). This training should cover the following topics:

- Company security objectives
- Organizational security structure
- Specific security procedures, duties, and responsibilities for each employee
- Specifics on how to recognize and respond to possible security threats; and
- Specific actions to be taken by each employee in the event of a security breach.

For in-depth security training required under § 172.704 (a)(5) and (c)(2), a hazmat employee must be trained at least once every three years or, if the security plan for which training is required is revised during the three-year recurrent training cycle, within 90 days of implementation of the revised plan.

UNSURE OF THE GENERAL HAZMAT TRAINING REQUIREMENTS?

See § 172.704, and consult [PHMSA's Hazmat Transportation Training Requirements brochure](#) for more details!

HOW LONG DO I NEED TO KEEP TRAINING RECORDS?

Per § 172.704(d), training records must be retained for each hazmat employee for three years from the date of the last training, and for 90 days after the employee leaves.



For additional information contact:
The Hazardous Materials Info Center

1-800-HMR-4922

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