

BNSF Safety Vision

We believe every accident or injury is preventable. Our vision is that Burlington Northern Santa Fe will operate free of accidents and injuries. Burlington Northern Santa Fe will achieve this vision through:

A culture that makes safety our highest priority and provides continuous self-examination as to the effectiveness of our safety process and performance ...

A work environment, including the resources and tools, that is safe and accident-free where all known hazards will be eliminated or safe-guarded ...

Work practices and training for all employees that make safety essential to the tasks we perform ...

An empowered work force, including all employees, that takes responsibility for personal safety, the safety of fellow employees, and the communities in which we serve.

BNSF



Hazardous Material Instructions

No. 3

IN EFFECT AT 0001
Central, Mountain and Pacific
Continental Time

Wednesday, April 1, 1998

Policy

Hazardous materials must be transported in compliance with The Burlington Northern and Santa Fe Railway Company's Hazardous Material Instructions. These instructions are based on the hazardous materials regulations of the Department of Transportation (DOT). They describe how to perform your duties so that you comply with the DOT regulations.

BNSF employees must have a copy of, be familiar with, and comply with these instructions when:

- Working on BNSF property.
or
- Operating over a foreign railroad **unless** that railroad's requirements are more restrictive.

Questions

For technical interpretation of these instructions, call the Hazardous Material Department at 8-435-3570. If no one answers, leave a message and:

- Provide your name.
- Provide a callback number or cc:mail or EMC-2 address.
- State your question.

Effective Date

These instructions are in effect at 0001 Wednesday, April 1, 1998. They supersede all previous rules and instructions that are not consistent with them.

Section I General

1. Hazardous Materials

Hazardous materials are defined as "a substance or material which the Secretary of Transportation has determined to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce."

Hazardous materials are classified according to their chemical and/or physical properties. There are two worded classes and nine numeric classes, some of which may be divided into divisions. A hazardous material is assigned to only one class, even if it meets the definition of more than one hazard. Figure 1 lists the hazard classes and divisions.

2. General Requirements

- A. Hazardous material may not be offered or accepted for transportation unless the hazardous material is properly classed, described, packaged, marked, placarded, and in condition for shipment in accordance with DOT regulations.
- B. Hazardous material may not be transported in commerce unless the hazardous material is handled and transported in accordance with DOT regulations.

3. Exceptions for U.S. Government Material

Department of Energy (DOE) and Department of Defense (DOD) shipments of hazardous materials for the purpose of national security are not subject to the DOT regulations and these instructions. Escorts must accompany these shipments and must travel in a railcar separate from the one carrying the hazardous materials. The escorts must have, in their possession, a document certifying that the shipment is for the purpose of national security.

4. Handling International Shipments

International shipments of hazardous materials, moving with acceptable foreign documents and foreign placards, may be transported in the United States (U.S.) as follows:

- From a U.S. port of entry to a U.S. destination;
- From a U.S. point of origin to a U.S. port of entry.

Figure 1—Hazard Classes and Divisions

1—Explosives and Blasting Agents

- 1.1 Explosives (with a mass explosion hazard)
- 1.2 Explosives (with a projection hazard)
- 1.3 Explosives (with predominately a fire hazard)
- 1.4 Explosives (with no significant blast hazard)
- 1.5 Very insensitive explosives; blasting agents
- 1.6 Extremely insensitive detonating substances

2—Gases

- 2.1 Flammable gas
- 2.2 Non-flammable compressed gas
- 2.3 Poison (toxic) gas
- 2.4 Corrosive gas—Canadian

3—Flammable Liquids

- 3 Flammable liquid

Combustible Liquids

- Combustible liquid

4—Flammable Solids and Reactive Solids/Liquids

- 4.1 Flammable solid
- 4.2 Spontaneously combustible material
- 4.3 Dangerous when wet material

5—Oxidizers and Organic Peroxides

- 5.1 Oxidizer
- 5.2 Organic peroxide

6—Poisonous (Toxic) Liquids / Solids and Infectious Substances

- 6.1 Poisonous (toxic) material
- 6.2 Infectious substances (etiologic agent)

7—Radioactive Materials

- 7 Radioactive material

8—Corrosive Materials

- 8 Corrosive material

9—Miscellaneous Hazardous Materials

- 9 Miscellaneous hazardous material

Worded Class

- ORM-D (not regulated in rail transportation)

5. Expediting Hazardous Material Shipments

You must forward hazardous materials promptly:

- Within 48 hours (excluding Saturdays, Sundays, and holidays) after accepting them at the shipper's facility or receiving them in any yard, transfer station, or interchange point.
- When only biweekly or weekly service is performed, on the first available train.
- When shipping papers are not provided, take the following action:
 1. Do not move the car until a shipping paper is provided in accordance with no. 2 below.
Note: A member of the train crew also must have emergency response information. Refer to Section II, Item 5.
 2. When the shipping papers cannot be provided, contact your supervisor, the customer, CSS, or request a radio waybill (Form 1463 Std.).
Note: Keep the Form 1463 Std. (Hazardous Materials Radio Waybill) available with other train documents while the shipment is in transportation.

Section II Required Documentation

1. Policy

Hazardous material shipments may be transported by rail only when a member of the crew has both:

- A. Acceptable shipping papers (see Item 2 below); and
- B. Acceptable emergency response information (see Item 5A).

2. Acceptable Shipping Papers

Any one of the following documents is an acceptable shipping paper if it includes appropriate entries (see Item 4A in this section).

- **BNSF-produced documents.** For example, train list, waybills, Form 1463 Std., track lists with required entries.
- **Customer-produced documents.** For example, bill of lading, switch list or UPS hazmat packet.
- **Connecting carrier's documents.**
- **Hand-printed documents.**
- **Hazardous waste manifests.**

If hazmat packets are used, conductors will be responsible for the envelope or packet during their tour of duty. Upon arrival at off-duty point, the inbound conductor will advise the outbound conductor of the location of the hazmat packet. The outbound conductor will check his new train list and determine the need to maintain the hazmat packet. If all shipments requiring hazmat descriptions have the information printed on the train list, the hazmat packet will no longer be needed. When crews are changed en route, or when it is not possible for the inbound conductor to furnish such information to the outbound conductor, the train dispatcher or terminal supervisor must be contacted regarding disposition of the hazmat packet. Conductors are responsible to see that the hazmat packet for cars set out en route are handled per an accompanying message or the train dispatcher's instructions. When cars set out en route are picked up, the conductor will receive a message or train dispatcher's instructions regarding location of a hazmat packet. As a last alternative to replacing a missing hazmat packet, the conductor may secure a packet from the trailer/container door.

3. Checking for Shipping Papers

- A. Make sure that a member of the crew has a paper copy of acceptable shipping papers, with the appropriate entries, when:

1. Accepting hazardous material shipments at a customer's facility, interchange point, or intermediate station.
2. Handling hazardous material shipments in a train.
3. Delivering hazardous material shipments to a customer's facility, interchange point, or intermediate station.

- B. When moving hazardous material shipments in a train, make sure that a member of the train crew has a copy of a train list, or other documents, indicating the position in the train of each railcar containing a hazardous material. The train crew must update the document to indicate all changes in the placement of any railcar in the train.

4. Reviewing Shipping Paper Entries

- A. Review the description of the hazardous material on the shipping papers and make sure that the following entries are present. (See Figure 2 for an example of a BNSF shipping description.)

Note: Items 1 - 4 listed below must be in order. However, other information may be entered in parentheses between the items.

Figure 2—Example of BNSF Shipping Description Entries

34 PLMX 28005 T6H L HAZMAT LAMIRA 124 ROHMHAAS LAMIRADA CA 70

FL⁽⁶⁾

* HAZMAT .(7) 1 TNK⁽⁵⁾// 186400 LB
VINYL ACETATE, INHIBITED⁽¹⁾
3⁽²⁾
EMERGENCY CONTACT: UN1301⁽³⁾ // PGII⁽⁴⁾
800-424-9300⁽⁸⁾ CHEMTREC RQ (VINYL ACETATE)⁽⁹⁾
HAZMAT STCC 4907270⁽⁹⁾

TO/CONSIGNEE
ROHMHAAS
LA MIRADA CA

FROM/SHIPPER
PHILLIPSPETRO
BARTLESVILLE OK

Numbers in parentheses refer to entries in Item 4A in this section.

1. Proper shipping name

The proper shipping name (name of the hazardous material) may be a word or words, such as "Chlorine," "Sulfuric Acid," or "Corrosive Liquid, N.O.S. (Caustic Soda)." The proper shipping name may include a number that indicates the concentration of the material. When a N.O.S. shipping name appears, the technical or chemical group name may appear in parentheses immediately after the N.O.S. shipping name.

2. Numeric and/or worded hazard class

Note: See definition of hazard class in the Glossary and also Figure 1.

- a. Divisions 1.1, 1.2, 1.3, 1.4, 1.5, and 1.6 may show a compatibility group letter after the class (for example, 1.1A).
- b. The hazard class or division prescribed for the material as shown in Figure 1 must be shown. Also, class names or subsidiary hazard classes or division numbers may be entered following the numeric hazard class, or following the basic description. (The hazard class need not be included for the proper shipping name "Combustible liquid, N.O.S.")

3. Identification number

Identification numbers with the prefix UN or NA must appear when required.

Note: If you have a concern, contact CSS.

4. Packing group

The packing group ("PG I," "PG II," or "PG III" or "I," "II," or "III") must be on shipping papers when required.

Note: If you have a concern, contact CSS.

5. Total quantity notation

- a. For bulk packagings or cylinders of Class 2 materials, the total quantity must appear. For example, 1 T/C, 1 CH, or 10 cyl.
- b. For non-bulk packagings, the total quantity is given by weight or volume (including the unit of measure). For example, 100 lbs., 55 gal, or 5 kg.

6. SCHI code

- a. These codes are an indication of the placards which may be applied or of other special car handling requirements (see SCHI codes).

7. HAZMAT indicator

- a. This indicator is used to locate hazardous material shipments.

8. Emergency response telephone number

Hazardous material shipping papers must show an emergency response telephone number except as described below.

Materials listed as Limited Quantities (LTD QTY) shipments do not require an emergency response telephone number. Also, materials under the shipping names "Engines, internal combustion," "Battery powered equipment," "Battery powered vehicle," "Wheelchair, electric," "Carbon dioxide, solid," "Dry ice," "Fish meal, stabilized," "Fish scrap, stabilized," "Castor bean," "Castor meal," "Castor flake," "Castor pomace," or "Refrigerating machine" do not require an emergency response telephone number.

9. Additional entries

The following entries may be found in addition to the shipping description entries:

- a. Residue: Last Contained ... (for empty packagings)
- b. HOT
- c. RQ (Reportable Quantity) Notation
- d. MARINE POLLUTANT Notation
- e. POISON (TOXIC) Notation
- f. POISON-INHALATION HAZARD or INHALATION HAZARD Notation
- g. ZONE (Hazard Zone) Notation
- h. DANGEROUS WHEN WET Notation
- i. LIMITED QUANTITY (LTD QTY) Notation
- j. DOT Exemption, Special Approval Number, or Competent Authority Number
- k. DOT-113 Notation
- l. OIL Notation
- m. Hazardous Materials Shipping Description Codes (STCC number)

B. Take the following action when the required entries are not present:

1. Contact CSS, your supervisor, or the customer. Request the entries required to complete the shipping description and record those entries.
2. Do **not** move the car when CSS, your supervisor, or the customer **cannot** provide the required entries.

5. Checking for Emergency Response Information**A. When accepting and transporting hazardous material shipments, make sure that a paper copy of the emergency response information is available. Any one of the following documents is acceptable emergency response information.**

- North American Emergency Response Guidebook
- Emergency response information printed at the bottom of the train list or track list.
- Emergency response information for another shipment of the same material already on the train list.
- Similar information provided by the customer. For example, a Material Safety Data Sheet (MSDS).

B. Take the following action when acceptable emergency response information is **not available.**

1. Request emergency response information from the customer, CSS or your supervisor.
2. If emergency response information is not provided, do not move the car.

Section III**Placards and Markings****1. Policy**

- A. Placards and markings on railcars, trailers and containers transporting hazardous material, whether loaded or containing a residue, must be checked to see that they are present and displayed properly, when required.

2. General Placarding and Marking Requirements

- A. Placards are required when transporting **any quantity** of the following DOT Table 1 hazard classes:

- 1.1 (Explosive w/mass explosion hazard)
- 1.2 (Explosive w/projection hazard)
- 1.3 (Explosive w/predominantly a fire hazard)
- 2.3 (Poisonous or toxic gas)
- 4.3 (Dangerous when wet material)
- 5.2 (Organic peroxide, Type B, liquid or solid, temperature controlled)
- 6.1 (Poisonous or toxic inhalation hazard, Zone A and B)
- 7 (Radioactive Yellow III label only)

- B. Placards are required when transporting **more than 454 kg. (1001 lbs.)** of the following DOT Table 2 hazard classes:

- 1.4 (Explosive w/no significant blast hazard) Placards are not required for Class 1.4 S materials, although placards may be present on these shipments.
- 1.5 (Very insensitive explosive)
- 1.6 (Extremely insensitive explosive)
- 2.1 (Flammable gas)
- 2.2 (Non-flammable, non-poisonous gas)
- 2.4 (Corrosive gas—Canadian)
- 3 (Flammable liquid)
- Combustible liquid
- 4.1 (Flammable solid)
- 4.2 (Spontaneously combustible material)
- 5.1 (Oxidizer)
- 5.2 (Organic peroxide)
- 6.1 (Poisonous or toxic material)
- 6.1 PG III (Harmful stow away from foodstuffs)

- For domestic transportation of Class 6.1 PG III materials, a KEEP AWAY FROM FOOD placard may be used in place of a POISON/TOXIC placard.

- 8 (Corrosive material)
- 9 (Miscellaneous hazardous material)

- For domestic transportation of non-bulk items, a CLASS 9 placard is not required. However, bulk shipments must be marked with the identification number (see Figure 3 of this section).

- C. A freight container, unit load device, transport vehicle or railcar which contains non-bulk packagings with two or more classes of hazardous materials requires different placards specified in DOT Table 2. These shipments may be placarded DANGEROUS instead of the separate placards specified for each of the materials in DOT Table 2. However, when 1,000 kg. (2,205 lbs.) or more of one class of material is loaded at one loading facility, the placard specified in DOT Table 2 must be applied.

- D. Placards are **not** required for:

- Hazardous material shipments (DOT Table 2) weighing less than 454 kg. (1,001 lbs.);
- Limited quantity (LTD QTY) shipments when indicated as such on shipping papers;
- Classes 6.2, Etiologic agents, and ORM-D;
- Combustible liquid in non-bulk packagings;

- Tank cars which have been cleaned and purged;
- Cryogenic atmospheric gases, other than Oxygen. For example, Argon.

E. Each bulk packaging that requires placards or markings must remain placarded or marked unless:

- Reloaded with a material requiring no placards or different placards; or
- Sufficiently cleaned of residue and purged of vapor to remove any potential hazard.

Notes:

1. A package which contains a residue of an elevated temperature material may remain marked in the same manner as when it contained a greater quantity of the material even though it no longer meets the DOT definition for an elevated temperature material.
2. Canadian shipments can be placarded with residue placards. Residue placards include the word "Residue(e)" on a black background with the hazard class number on the lower portion of the placard.

3. Inspecting for Placards

- A. Make sure that all placards on placarded hazardous material shipments are in place and are consistent with the shipping paper information.
- B. Make sure that placards:
 - Are on both sides and both ends of hazardous material shipments when required;
 - Are in placard holders, securely attached to placard boards, or taped or glued to the railcar, trailer, or container;
 - Have all elements visible and not faded. Elements include the symbol, identification number or wording, and hazard class number.
 - Have the words or numbers horizontal, reading from left to right.
- C. When a shipping paper describes a single hazardous material and also indicates a subsidiary hazard and more than one placard, any subsidiary placard must not display:
 - The identification number; or
 - The hazard class number.
- D. When a placard is **not** properly applied or is missing **en route**, notify the train dispatcher, ATM, yardmaster, or your supervisor, as appropriate, who will arrange to correct the problem at the next inspection point.
- E. When a placard is **not** properly applied or is missing **when picking up** hazardous material shipments at the customer's facility:
 - Notify the customer, train dispatcher, ATM/yardmaster, CSS, or your supervisor, as appropriate.
 - Do **not** accept the hazardous material shipment until corrections have been made.

4. Inspecting for Identification Number Markings

- A. Make sure that identification numbers are securely attached to bulk packagings of hazardous material and that they agree with the shipping paper entries.

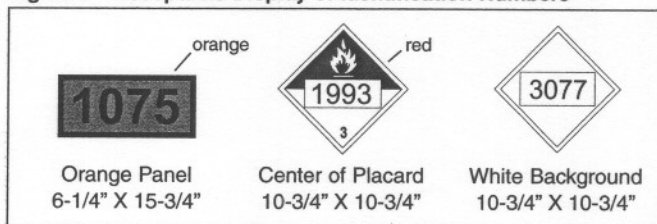
A transport vehicle or freight container loaded with more than 1,000 kg (2,205 pounds) aggregate gross weight of packages containing a material poisonous by inhalation shall be marked with the identification number specified for the material on each side and each end of the transport vehicle or freight container.

For large quantities of hazardous materials in non-bulk packages, a transport vehicle or freight container containing 4,000 kg (8,820 pounds) or more aggregate gross weight of a hazardous material having a single identification number must be marked with the identification number designated for the hazardous material. This provision does not apply to ORM-D materials or limited quantities of hazardous materials.

Notes:

1. Identification numbers are **not** required to be displayed on the ends of multi-compartment tank cars transporting more than one commodity having different identification numbers.
2. Identification numbers are **not** displayed on EXPLOSIVES, RADIOACTIVE, or DANGEROUS placards.
3. Identification numbers for bulk packagings displayed on railcars, portable tanks, and IM portable tanks are in one of the formats in Figure 3.

Figure 3—Acceptable Display of Identification Numbers

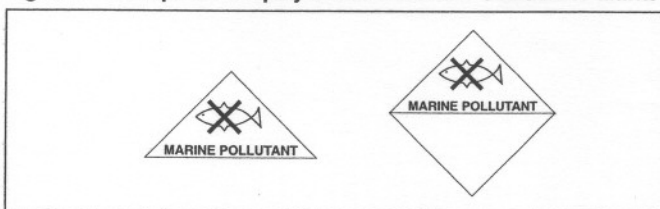


- B. When an identification number is **not** properly applied or is missing **en route**, notify the train dispatcher, ATM/yardmaster, or your supervisor, as appropriate.
- C. When a display of the identification number is **not** properly applied or is missing **when picking up** hazardous material shipments at the customer's facility:
 - Notify the customer, train dispatcher, ATM/yardmaster, CSS, or your supervisor, as appropriate.
 - Do not accept the hazardous material shipment until corrections have been made.

5. Inspecting for Marine Pollutant Marks

- A. When designated on the shipping paper as a marine pollutant and placards are **not** present, make sure that the MARINE POLLUTANT marks are displayed on both sides and both ends of bulk packagings.
- B. Make sure that the MARINE POLLUTANT marks, when required for bulk packagings, are displayed as in Figure 4.

Figure 4—Acceptable Display of the MARINE POLLUTANT Marks



- C. When MARINE POLLUTANT marks are **not** properly applied or are missing **en route**, notify the train dispatcher, ATM/yardmaster, or your supervisor, as appropriate, who will arrange to correct the problem at the next inspection point.

- D. In rail transportation, non-bulk shipments of marine pollutants are not required to be marked except when transported aboard ship.
- E. When MARINE POLLUTANT marks are not properly applied or are missing when picking up a hazardous material shipment at the customer's facility:
 - Notify the customer, train dispatcher, ATM/yardmaster, CSS, or your supervisor, as appropriate.
 - Do not accept the hazardous material shipment until corrections have been made.

6. Inspecting for Proper Shipping Name Stenciled on Portable Tanks

- A. A portable tank containing a hazardous material must be marked on both sides with the proper shipping name specified on the shipping paper.

Section IV Car Inspection

1. Policy

Railcars, trailers, and containers transporting a hazardous material, whether loaded or containing a residue, must be inspected to determine that they are in acceptable condition for transportation.

2. When Inspections are Required

Inspect placarded or marked hazardous material shipments (including flatcars transporting placarded or marked trailers or containers) and the railcars adjacent to them:

- Before accepting them from the shipper.
- When receiving them in interchange.

Note: Run through trains received in interchange may continue to the next mechanical inspection point before being inspected.
- When placing them in a train, including intermediate stations.
- At other points where an inspection is required.

3. Inspecting for Mechanical Condition

- Inspect the mechanical condition of placarded or marked hazardous material shipments in accordance with GCOR 1.33.
- Take the following action when a hazardous material shipment is not mechanically ready for service:
 - Do **not** accept the hazardous material shipment or allow it to continue in transportation.
 - Notify the train dispatcher, ATM/yardmaster, supervisor, or NOC, as appropriate and describe the defect.

4. Inspecting for Leakage

- Without climbing on the railcar, make sure that hazardous material shipments are not leaking by:
 - Looking for leaking contents.
 - Looking for a vapor cloud.
 - Listening for sounds of the contents escaping.
- Take the following actions when there is any sign of leakage:
 - Do **not** allow the hazardous material shipment to continue in transportation until the leak is controlled.
 - Leaking cars may be moved a short distance, with proper railroad authority, to a location remote from railroad operations, occupied buildings, or highways.
- Follow the instructions in Section VII—Emergency Response.

5. Inspecting Tank Cars

In addition to following the other inspection requirements in this section, make the following inspections for placarded tank cars or tank cars without placards but marked with an identification number:

- When accepting a tank car at the customer's facility, make sure that the tank car is disconnected from the loading or unloading facility.
- Without climbing on the tank car, visually make sure that:
 - Manhole cover swing bolts are in place;
 - Protective housing covers are closed;
 - Visible plugs or caps on other fittings are properly in place.

Note: Tank car heater coil caps on inlet and outlet pipes may be left off while car is being transported.
- When tank car fittings are not secure or appear to be damaged, contact the customer, train dispatcher, CSS, or ATM/yardmaster and explain the problem. Do **not** move the car until the problem is corrected.

6. Inspecting Shipments Placarded EXPLOSIVES 1.1 or EXPLOSIVES 1.2

In addition to following the other inspection requirements in this section:

- Look for conditions that indicate damage to the contents.
- Take the following action for cars that appear to have been damaged:
 - Contact your supervisor to arrange to have the contents inspected by a qualified person.
 - Do **not** move the car until all damage has been corrected.
- Make sure that required "car certificates" (see Figure 5) are complete and displayed on both sides of railcars, trailers, or containers placarded EXPLOSIVES 1.1 or EXPLOSIVES 1.2.

Notes:

 - Car certificates must be removed after the railcar, trailer, or container is unloaded.
 - Car certificates lost in transit must be replaced at the next inspection point.
 - Car certificates are either 7.1 by 7.1 inches or 5.9 by 7.9 inches in size.
- If completed car certificates are not in place:
 - Contact the train dispatcher, your supervisor or the customer.
 - Do not move the car until the car certificates are in place.

Figure 5—Text of the Car Certificate

Car Certificate	
_____ Railroad	
No. 1 _____	Station _____ 19 _____
I hereby certify that I have this day personally examined Car Number _____ and that the car is in condition for service and complies with the FRA Freight Car Safety Standards (49 CFR Part 215) and with the requirements for freight cars used to transport explosives prescribed by the DOT Hazardous Materials Regulations (49 CFR Part 174).	
_____ Qualified Person Designated Under 49 CFR 215.11	
No. 2 _____	Station _____ 19 _____
I have this day personally examined the above car and hereby certify that the explosives in or on this car, or in or on vehicles or in containers have been loaded and braced; that placards have been applied, according to the regulations prescribed by the Department of Transportation; and that the doors of cars so equipped fit or have been stripped so that sparks cannot enter.	
_____ Shipper or his authorized agent	
_____ Qualified Person Designated Under 49 CFR 215.11	
No. 3 _____	Station _____ 19 _____
I hereby certify that I have this day personally supervised the loading of the vehicles or containers on and their securement to the above car.	
_____ Shipper or railway employee inspecting loading and securement	

Note 1: A shipper must decline to use a car not in proper condition.

Note 2: All certificates, where applicable, must be signed.

Section V Switching

- Coupling speeds of loaded placarded cars must not exceed 4 MPH.
- Shipments placarded EXPLOSIVES 1.1 (N1) or EXPLOSIVES 1.2 (N2):
 - Must be separated by at least one nonplacarded car from the engine(s).
 - Must be placed in a location away from probable danger of fire.
 - Must not be spotted in or alongside a passenger station or platform.
 - Must not be placed under a bridge or overhead crossing.
- For any of the following:
 - A placarded intermodal shipment.
 - A shipment with placards displayed on white square backgrounds (SCHI Codes N1, N2, PA, PL).
 - DOT-specification 113 tank cars placarded Class 2.1 (FG) on white square background (loads or residue).

The following restrictions apply to the shipment:

- Must not be cut off in motion.
- Must not be struck by any car cut off in motion.
- Must not be coupled into with any more force than necessary.

4. Switching Restrictions for Key Shipments

The following key shipments are governed by switching restrictions:

- Class 2.3 or 6.1 Zone A or Zone B poison-inhalation hazard (PIH) material (SCHI codes PA, PL and PO)
- Class 2.1 flammable gas (FG)
- Explosives 1.1 (N1) or 1.2 (N2)
- Environmentally sensitive chemicals (see Figure 6)

These key shipments must not be:

- cut off in motion in cuts of more than two cars
- coupled into by cuts of more than two cars cut off in motion
- coupled into with any more force than necessary

Section VI Train Operations

1. Policy

Trains transporting hazardous materials will be operated in accordance with BNSF rules and DOT regulations. Releases and suspected releases must be promptly reported.

2. Shipping Paper and Train Placement Requirements

Shipping papers, as specified in Section II, and train hazardous material placement requirements per Hazardous Material Train Placement Chart, are required when:

- train or transfer train movements require an air brake inspection and test prior to departure.
- delivering cars to interchange tracks that are owned and operated by another railroad when an air brake inspection and test are not required prior to departure.

3. Key Shipment and Key Train Instructions

A. KEY TRAIN designation

The KEY TRAIN designation applies to any train with:

- five (5) tank car loads of Zone A or Zone B poison-inhalation hazard (PIH) material (SCHI codes PA, PL and PO).
- twenty (20) shipments (includes car loads and portable tank container loads in any combination) of the following hazardous materials:
 - Class 2.3 or 6.1 Zone A or Zone B PIH material (SCHI codes PA, PL, and PO)
 - Class 2.1 flammable gas (FG)
 - Explosives 1.1 (N1) or 1.2 (N2)
 - Environmentally sensitive chemicals (see Figure 6)
 - Any packing group I hazardous material
 - UN1005 (liquefied anhydrous ammonia or ammonia solutions)

B. Identifying KEY SHIPMENTS

Crews will use generated documents to determine key shipments. The statements:

>>>KEY SHIPMENT (FIVE)<<<
>>>KEY SHIPMENT (TWENTY)<<<

will identify loads which are designated key shipments. This designation will appear immediately above the hazardous manifest information for the shipment.

If the specified number of key shipments from either group is present in a train, the train will be considered a KEY TRAIN, and key train restrictions will apply.

When determining if a train is a key train, if fewer than five >>>KEY SHIPMENT (FIVE)<<< loads are in the train, they will be included in the count of twenty hazardous material shipments.

When a train is designated a key train at an initial terminal, the notation KEY TRAIN will appear at the top of the train list.

Note: When changing the train consist en route by picking up or setting out key shipments, the KEY TRAIN designation may change. It is the responsibility of the conductor to make this determination and to promptly notify the train dispatcher.

C. Operating Restrictions for KEY TRAINS

- Maximum authorized speed for key trains is 50 MPH.
- When practical, key trains will hold the main track at meeting or passing points.
- When moving, key trains experiencing an emergency application of the brakes, whether intentional or not, must be protected as prescribed by Rule 6.23 and as supplemented in the current System Special Instructions All Subdivisions. In addition, the entire train must be inspected for derailed or defective cars. If the train is stopped at a location where it cannot be SAFELY inspected (for example: on a bridge), the train may be moved, at the discretion of the appropriate supervisor or train dispatcher, to the nearest location where it can be SAFELY inspected, but at no more than 5 MPH.
- When a key train is stopped by a failed equipment detector and no defect is found, the indicated car (Hazmat or not) must be set out.
- When a failed equipment detector reports "system failure," "integrity failure," or "train too slow," the train may proceed while being closely observed and not exceeding 30 MPH for 30 miles unless inspected by another detector or delivered to a terminal where mechanical inspection will be made. If after 30 miles, the train has not passed another detector or has not been delivered to a terminal for mechanical inspection, a roll-by inspection must be made at a speed not exceeding 5 MPH. If a crew change occurs (before the 30 miles have been completed or the roll-by inspection has been performed), the new crew must be advised of the required inspection.

D. For switching restrictions for Key Shipments, see Section V.

4. **Hazardous Material Release**

Upon discovery of an unintentional release of product from a shipment of hazardous material, follow the procedures described in Section VII for assessing the incident. Notify the dispatcher, Service Interruption Desk, or local company official by the first available means of communication.

Provide the following information:

- your name and title
- location of the leaking car
- car initials and number
- contents of the car
- location of leak from car
- rate of leak from the car

Figure 6—Environmentally Sensitive Chemicals

Allyl Chloride	Ethylene Dichloride
Carbon Tetrachloride	Epichlorohydrin
Chlorobenzene	Methyl Chloroform
Chloroform	Methylene Chloride/1,1,1-Trichloroethane
Dichlorobenzene	Perchloroethylene
Dichloropropane	Perchloroethylene/Trichloroethylene mixture
Dichloropropene	Trichloroethylene
Ethyl Chloride	
Ethylene Dibromide	

**Section VII
Emergency Response**

1. **Hazardous Material—Accident**

IN CASE OF ACCIDENT, your safety is the first consideration. The responsibility of a train crew is to determine the status of the incident and provide that information to all who need it.

PROTECT THE TRAIN AND MAKE AN EMERGENCY CALL BY RADIO. State the specific location of the incident and train status.

DETERMINE THE STATUS OF ALL CREW MEMBERS.

NOTIFY the dispatcher, Service Interruption Desk, or company official by the quickest means available. If railroad communications fail or are not available, call long-distance collect.

Service Interruption Desk, NOC—Fort Worth

Company phone 8-234-6164 or (817) 234-6164

8-234-2351 or (817) 234-2351

Bell Telephone 1-800-832-5452 (Ask for SI Desk)

A. Provide:

1. Your name and title.
2. Train identification symbol.
3. Specific location of the incident (station, mile post location, nearest street or highway crossing).
4. If fire or medical assistance is needed.
5. Wind and weather conditions.

B. IF FIRE OR VAPOR CLOUDS are visible:

1. TAKE all shipping papers such as waybills, train list, and emergency response information with you.
2. EVACUATE to 1/2 mile upwind and uphill of vapor cloud or fire.
3. SELECT a safe location accessible to arriving emergency response personnel.
4. REEVALUATE the status of your train from this point. Provide the Service Interruption Desk with an update and your location.

C. IF NO FIRE OR VAPOR CLOUDS are apparent:

1. EXTINGUISH ignition sources such as smoking materials and caboose stoves. Do not smoke in the vicinity. Do not light fuses.
2. CHECK the train list or shipping papers to determine what cars and commodities are likely involved. Identify potential ignition sources such as operating refrigeration equipment and switch heaters.
3. INSPECT the train to determine the condition of cars involved.
 - a. Use a buddy system if possible.
 - b. Tell crew members what commodities may be involved.
 - c. Utilize emergency response information to determine what risk they may pose.
 - d. Approach from upwind (wind at your back) and uphill side.

- e. Go no nearer than absolutely necessary to assess the condition of the cars.
 - f. Detect any fire, vapor or gas cloud, smoke, leak, or unusual smells or noises. If you detect these conditions, **DO NOT GO NEAR THE CARS.**
Evacuate all crew members to a safe distance.
- D. UPDATE THE DISPATCHER, SERVICE INTERRUPTION DESK, OR COMPANY OFFICIAL with as much information as you have gathered from inspecting the train.
- 1. Initials and numbers of cars involved.
 - 2. Location of hazardous materials involved.
 - 3. Description of hazardous materials from shipping papers.
 - 4. Condition of each car. Is it upright or turned over; intact; punctured or leaking; on fire or near a fire; producing a vapor or gas cloud; releasing an unusual odor or unusual noise?
 - 5. Location of people, property, or public systems (roads, power lines, hospitals, pipelines, etc.) which could be subject to damage.
 - 6. Location of any nearby storm sewer, stream, river, pond, or lake.
 - 7. Location of access roads.
 - 8. Indicate location where the train crew will meet the emergency responders and how the train crew can be identified.
 - 9. Any other information that will help the Service Interruption Desk understand the situation.
- E. **WARN PEOPLE TO STAY AWAY FROM THE EMERGENCY AREA.**
- F. IDENTIFY yourself by name and title when police and fire personnel arrive.
- PROVIDE ASSISTANCE by giving them a copy of the train list, emergency response information, and any notes made. The conductor should give information from waybills and shipping papers, but must retain one copy of the train documents until delivered to a responding company officer.
- HELP emergency personnel determine which cars and commodities are involved.
- G. REMAIN at the scene, at a safe distance, until relieved by a company operating officer.
- H. A company spokesperson will handle discussing the incident with the media or other persons.

These instructions should be followed as closely as possible; however, it is realized that on-the-scene judgment based on actual circumstances must be the final guide for protecting lives, property, and the environment.

ALWAYS CONSIDER YOUR SAFETY BEFORE ACTING!

Appendix
Exemption DOT-E-9271

The following is provided in compliance with the DOT exemption to the regulations as noted. The exemption applies only to car separation requirements for Division 1.1, 1.2 and 1.3 explosives. Item 8 spells out the exemption.

U.S. Department of Transportation
Research and Special Programs Administration

400 Seventh Street, SW
Washington, DC 20590

1. Union Pacific Railroad Co., Omaha, Nebraska, is hereby granted an exemption from certain provisions of the Department's Hazardous Materials Regulations, for transportation in commerce of the packages prescribed herein of Division 1.1, 1.2 and 1.3 explosives subject to the limitations and special requirements specified herein. This exemption authorizes deviation from car separation requirements, and provides no relief from any regulation other than as specifically stated. Each of the following is hereby granted the status of a party to this exemption:
 - CSX Transportation, Inc., Jacksonville, FL—PTE-1.
 - Atchison, Topeka and Santa Fe Railway Co., Topeka, KS—PTE-2.
 - Florida East Coast Railway Co., St. Augustine, FL—PTE-3.
2. **BASIS.** This exemption is based on Union Pacific Railroad Co.'s application dated April 28, 1994, submitted in accordance with 49 CFR 107.105. The granting of party to status is based on the following applications submitted in accordance with 49 CFR 107.111 and 107.105:
 - CSX Transportation, Inc.'s application dated May 6, 1994.
 - Atchison, Topeka and Santa Fe Railway Co.'s application dated April 27, 1994.
 - Florida East Coast Railway Co.'s application dated April 22, 1994.
3. **HAZARDOUS MATERIALS.** (Descriptor and class). Various Division 1.1, 1.2, and 1.3 explosives, particularly rocket motors and spacecraft assemblies.
4. **PROPER SHIPPING NAME.** (49 CFR 172.101), as appropriate.
5. **REGULATION AFFECTED.** 49 CFR 174.85.
6. **MODES OF TRANSPORTATION AUTHORIZED.** Rail freight.
7. **SAFETY CONTROL MEASURES.** Packaging is as prescribed in 49 CFR Part 173, Subpart C.
8. **SPECIAL PROVISIONS.**
 - A. The car separation requirements of §174.85 are waived in lieu of the following:
 1. Flatcars carrying loaded trailers or containers placarded EXPLOSIVES 1.1 or 1.2 may be placed next to flatcars loaded with trailers or containers placarded EXPLOSIVES 1.3 without a buffer car in between.
 2. Flatcars in trailer-on-flatcar or container-on-flatcar service with loads placarded EXPLOSIVES 1.1 or 1.2 may be placed next to non-placarded, loaded, specially equipped cars in trailer-on-flatcar or container-on-flatcar service, or may be placed next to flatcars loaded with vehicles secured by means of a device designed for that purpose and permanently installed on the flatcar and of a type generally accepted for handling in interchange between railroads (i.e., bi-level and tri-level auto racks).
 3. Flatcars with rocket motors, placarded EXPLOSIVES

1.1 or 1.2, in trailers with automatic refrigerator or heating apparatus in operation may be placed next to flatcars with rocket motors placarded either EXPLOSIVES 1.1 or 1.2 or 1.3, in trailers with automatic refrigerator or heating apparatus in operation. This apparatus must conform to DOT Exemption 5022.

4. Freight cars placarded EXPLOSIVES 1.1 or 1.2 may be placed next to a freight car placarded EXPLOSIVES 1.3 without a buffer car in between.
- B. No other placarded car, except a car placarded COMBUSTIBLE or car loaded with rocket motors and placarded EXPLOSIVES 1.1 or 1.2 or 1.3, may be coupled to a combination of a rocket motor car placarded EXPLOSIVES 1.1 or 1.2 next to a rocket motor car placarded EXPLOSIVES 1.3.
- C. The marking requirements of 49 CFR Part 107, Appendix B are waived.
- D. A copy of this exemption must be in possession of a member of the train crew.
- E. In addition to the requirements of §172.203, applicable notices to train crews (§174.26) must bear reference to the exemption number.
- F. Carriers who receive packages covered by this exemption in interchange may transport the packages under the terms of this exemption provided a copy of this exemption is maintained at the carrier's principle place of business and is made available to a representative of the Department of Transportation upon request.
9. **REPORTING REQUIREMENTS.** The carrier is required to report any incident involving fire, explosion or loss of packaging contents or packaging failure to the Associate Administrator for Hazardous Materials Safety (AAHMS) as soon as practicable. (49 CFR 171.15 and 171.16 apply to any activity undertaken under the authority of this exemption.) In addition, the holder(s) of this exemption must inform the AAHMS, in writing, of any incidents involving the package and shipments made under the terms of this exemption.
10. **EXPIRATION DATE.** This exemption remains in effect until otherwise advised in a general order.

Issued at Washington, D.C.:

Alan I. Roberts

Associate Administrator for Hazardous Materials Safety

**Appendix 2
Exemption DOT-E 7991
Third Revision**

The following is provided in compliance with DOT exemption to the regulations as noted. The exemption applies to the transportation of flagging kits and motor vehicles.

U.S. Department of Transportation
Research and Special Programs Administration
400 Seventh Street, SW
Washington, DC 20590

1. **GRANTEE:** Union Pacific Railroad Company
Omaha, Nebraska

(See Appendix A to this document for a list of additional grantees.)
2. **PURPOSE AND LIMITATION.** This exemption authorizes the transportation in commerce of flagging kits of specified construction, containing certain Class 1.4 and 4.1 materials, not subject to the Department's Hazardous Materials Regulations. This exemption provides no relief from any regulations other than as specifically stated.
3. **REGULATORY SYSTEM AFFECTED.** 49 CFR Parts 106, 107 and 171-180.
4. **REGULATIONS FROM WHICH EXEMPTED.** 49 CFR Parts 106, 107, and 171-180.
5. **BASIS.** This exemption is based on Union Pacific Railroad Company's application of March 29, 1995, and supplemental information dated January 20, 1997, submitted in accordance with 49 CFR 107.109 and the public proceeding thereon.
6. **HAZARDOUS MATERIALS (49 CFR 172.101).**

Hazardous Materials Description			
Proper Shipping Name	Hazard Class/Division	Identification Number	Packing Group
Signals, railway track, explosive	1.4S	UN 0193	II
Signal devices, hand	1.4G	UN 0191	II
Signal devices, hand	1.4S	UN 0373	II
Articles, pyrotechnic	1.4G	UN 0431	II
Fusee (railway or highway)	4.1	UN 1325	II

7. **PACKAGING(S) AND SAFETY CONTROL MEASURES.**
 - A. Packagings authorized are:
 1. A flagging kit consisting of a two-compartment container constructed of 24-gauge galvanized steel. Each compartment shall be equipped with a cover and latching device. Each packaging may contain a maximum of 12 fusees and 36 railway torpedoes.
 2. A flagging kit identified in the applicant's request as PPSC #50056-2, PPSC #50026-18. Each packaging may contain a maximum quantity of 12 fusees and 36 railway torpedoes.
 3. A flagging kit constructed in accordance with Consolidated Rail Corporation's drawing D-49053-B. Each packaging may contain a maximum quantity of 36 fusees and 36 railway torpedoes.

- B. Compartments for railway torpedoes must be equipped with a spring-loaded positive locking device. Each compartment may contain only one type of device.

8. **SPECIAL PROVISIONS.**

- A. Packagings may be transported only on Maintenance of Way vehicles or other railroad motor vehicles such as Car Department, Signal Maintainers, or Operating Department motor vehicles, including privately owned motor vehicles under the direct control of on-duty railroad employees.
- B. No more than six flagging kits may be transported at any one time on any motor vehicle.
- C. All materials described in paragraph 6 must be kept in closed flagging kits whenever they are not being used on the railroad right-of-way. Personnel may not open the flagging kits during such time as they are driving the vehicle or when it is located on other than railroad property.
- D. When flagging kits are left in unattended motor vehicles on non-railroad property, they must be locked, locked inside the vehicle, or stored in a locked compartment on the motor vehicle.
- E. A copy of this exemption must be kept on file and be made available to any state and/or local agency that requests a copy.

9. **MODES OF TRANSPORTATION AUTHORIZED.** Motor vehicle.

10. **MODAL REQUIREMENTS.**

- A. A copy of this exemption must be carried aboard each motor vehicle used to transport packages covered by this exemption.

11. **COMPLIANCE.** Failure by a person to comply with any of the following may result in suspension or revocation of this exemption and penalties prescribed by the Federal Hazardous Materials Transportation laws:

- All terms and conditions prescribed in this exemption and the Hazardous Materials Regulations, 49 CFR Parts 171-180.
- Registration required by 49 CFR 101.601 *et seq.*, when applicable.

Each "Hazmat employee," as defined in 49 CFR 171.8, who performs a function subject to this exemption must receive training on the requirements and conditions of this exemption in addition to the training required by 49 CFR 172.700 through 172.704.

No person may use or apply this exemption, including display of its number, when the exemption has expired or is otherwise no longer in effect.

12. **REPORTING REQUIREMENTS.** The carrier is required to report any incident involving loss of packaging contents or packaging failure to the Associate Administrator for Hazardous Materials Safety or (AAHMS) as soon as practicable. (49 CFR 171.15 and 171.16 apply to any activity undertaken under the authority of this exemption.) In addition, the holder(s) of this exemption must inform the AAHMS, in writing, of any incidence involving the package and shipments made under the terms of this exemption.

Issued at Washington, D.C.:
Alan I. Roberts, Nov. 24, 1997

Associate Administrator for Hazardous Materials Safety

EXPIRATION DATE. This exemption remains in effect until otherwise advised in a general order.

Glossary

Bulk package—Packagings with a capacity greater than 119 gal or 882 lbs. For example, bulk bags, intermodal (IM) portable tanks, portable tanks, portable bins, gondola cars, hopper cars, or tank cars.

Container—Any freight container, IM portable tank, portable tank, or portable bin.

Emergency response information—Hazard and response information provided with each hazardous material shipment to assist response personnel at hazardous material incidents.

Hazard class—The category of hazard assigned to a hazardous material. A material may meet the definition for more than one hazard class but is assigned to only one class. A class may be subdivided into divisions. The hazard class may be expressed as a number or with words.

Hazard zone—One of four levels of hazard (Hazard Zones A through D) assigned to gases, and one of two levels of hazard (Hazard Zones A and B) assigned to liquids that are poisonous by inhalation. For example, when the hazard zone is "A," it may be shown on the shipping papers as "Hazard Zone A" or "Zone A."

Hazardous material—A substance or material which the Secretary of Transportation has determined to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce. This includes hazardous substances, hazardous wastes, elevated temperature materials, and marine pollutants.

Hazardous material shipment—A hazardous material in railcars, trailers, or containers in rail transportation. All hazardous material shipments require shipping papers. When moved in railcars, trailers, or containers, hazardous material shipments may or may not be placarded or marked with an identification number.

Hazardous waste manifest—A document required specifically for hazardous wastes which contains the shipping description and identifies the waste generator, each transporter, and disposal facility.

Interchange—The process of moving a railcar to or from another railroad (includes transfer moves between BNSF yards).

Limited quantity (LTD QTY)—A term used on shipping papers to indicate a hazardous material shipment in cases which allow exceptions to the labeling, packaging, and placarding requirements.

Marking—A descriptive commodity name, identification number, or caution (such as INHALATION HAZARD or MARINE POLLUTANT) displayed on packagings. (See Section III for marking requirements.)

N.O.S.—Initials found on shipping papers than mean "Not Otherwise Specified."

Non-bulk package—Packagings with a capacity less than 119 gal. or 882 lbs. For example, bags, bottles, boxes, cylinders, or drums.

ORM-D—A consumer commodity which is not subject to the DOT regulations when transported by rail.

Packing Group—A grouping of hazardous materials according to the degree of danger:

1. Packing Group I (shown as "PG I" or "I" on the shipping papers) indicates great danger.
2. Packing Group II (shown as "PG II" or "II" on the shipping papers) indicates medium danger.
3. Packing Group III (shown as "PG III" or "III" on the shipping papers) indicates minor danger.

Placard—A sign measuring 10 3/4 by 10 3/4 inches square-on-point, communicating a hazard by symbol, color, and words or numbers. Some placards must be displayed on a square background which is white with a black border. (see Figure 3)

Placarded car—A railcar displaying placards in accordance with DOT regulations.

Railcar—Equipment used in rail transportation. For example, boxcar, flatcar, gondola car, hopper car, tank car, or caboose, but not an engine.

Residue—The amount of material left in a railcar after it has been unloaded to the maximum extent possible.

SCHI Code—A code which is shown on train lists and other BNSF-generated documents to designate special car handling requirements. This code can also appear in the Special Instructions column of switch lists and yard inventories.

Shipper's certification—A declaration the shipper provides on shipping papers. The certification must be signed by hand or mechanically. It reads either: "This is to certify that the above-named (herein-named) materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation."

or

"I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name, and are classified, packed, marked and labeled, placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations."

Shipping paper—Any document providing the appropriate entries for a hazardous material shipment. (See Section II for information on shipping paper requirements.)

BNSF FORM 1463 STD.

1. * HAZMAT *

2. ☐ Date: _____ / _____ / _____, Time: _____ : _____ AM
MO DA YR PM
3. ☐ Car Init & No. _____
4. ☐ Car Type _____
5. ☐ Origin _____

6. ☐ Destination _____

7. ☐ Hazmat Shipment Total Wgt _____

Basic Description

8. ☐ Pkg/Car _____
9. ☐ PSN _____
10. ☐ HazCls _____
11. ☐ UN/NA _____
12. ☐ PG _____
13. ☐ RQ (_____)
14. ☐ Additional Warning _____
15. ☐ DOT Exemption _____
16. ☐ Hazmat STCC _____
17. ☐ Emergency Contact (_____) _____ - _____

BNSF FORM 1463 STD.

NOTE: Boxes numbered and labeled with an asterisk are MUST fields.

BOX:

- 1) Hazmat indicator: (not required)
- 2) Date and Time
- *3) Car identification letters and numbers
- 4) Car type: (i.e.: tank car, box car, etc.)
- 5) Origin: (city or station number)
- 6) Destination: (city or station number)
- *7) Hazmat Shipment Total Weight: (pounds, kilograms, etc.)
- *8) Package/Car: (i.e.: CLD, TLD, TNK, DRMS, BOX, etc.)
- *9) Proper Shipping Name: (include N.O.S. [technical name] and hazardous substance name in parentheses)
- *10) Hazard Class: (number and division if applicable) (when required)
- *11) UN or NA number: (when required)
- *12) Packing Group: (I, II or III) (when required)
- *13) Reportable Quantity: (a technical name in parentheses when required)
- *14) Any additional warning in billing information:
(i.e.: DANGEROUS WHEN WET, POISON INHALATION HAZARD ZONE A, MARINE POLLUTANT, HOT)
preceding the proper shipping name (when required)
- *15) DOT Exemption: (if listed)
- 16) Hazmat STCC number
- *17) Emergency Contact Telephone Number: (when required)

CSS and NOC personnel should consult these instructions and fill out a blank BNSF Form 1463 Std. prior to transmitting a radio waybill to a train crew. These steps will help insure that all DOT-required hazardous materials information is available for the shipment.

For questions regarding the use of the 1463 Standard or other hazardous materials questions, call 8-435-3570.

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