

# The TI



- TI Published By The International Civil Aviation Organization (ICAO)
- A UN Body, Meets In Montreal On Biennium Basis
- Code Revised Every 2 Years
- Latest Edition:

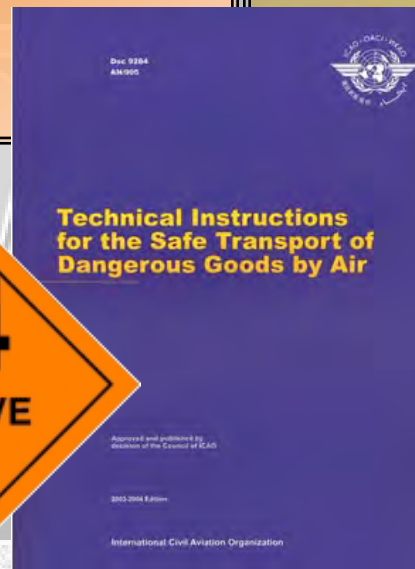
# OTHER REGULATIONS



- DGR Published By The International Air Transport Association (IATA)
- AIR Shipper – Labelmaster Field Manual
- Published Yearly
- Extras – Operator Variations, Guidance, IATA Requirements

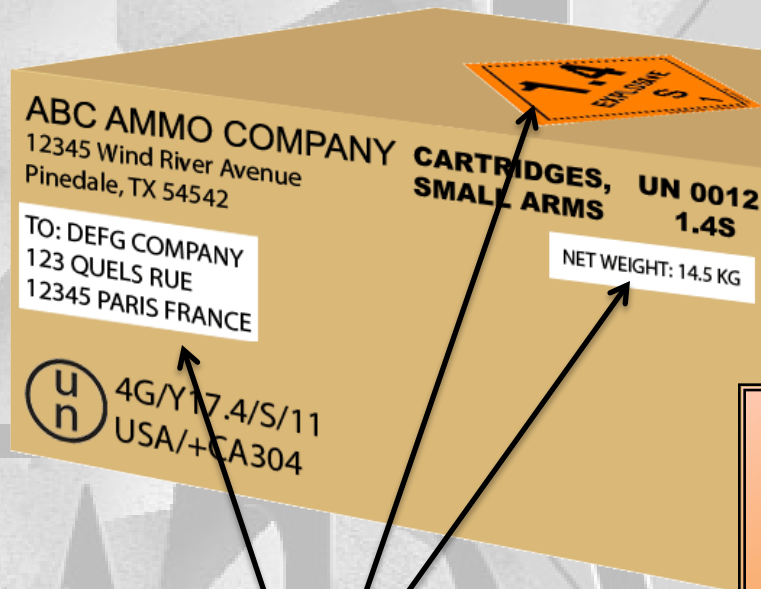
# ICAO VS. 49 CFR

- ❑ TI Applies
- ❑ ORM-D, NA #'s – Not Valid
- ❑ Ammunition Reverts To 1.4S
- ❑ State Variations



# Old System

## 1.4S AIR VS. 1.4S SURFACE



Still Applies To Primers

- Extra Markings
  - 1.4S Label
  - 25kg Net Package Max
  - Consignee Address
- No Physical Difference
  - No Redundant Closures
  - No Leak Testing

ADDITIONAL LABOR  
FOR AIR

# LQ DIFFERENCES AIR VS. SURFACE

- ❑ Air Is More Strict
- ❑ Spec Packaging Is Only Exception
- ❑ Air Combination Package Max Typically Equals Surface Inner Package Max
- ❑ ID 8000 More Like Surface LQ, e.g. 30 Kg, But Products Are Few



# LQ EXCEPTIONS

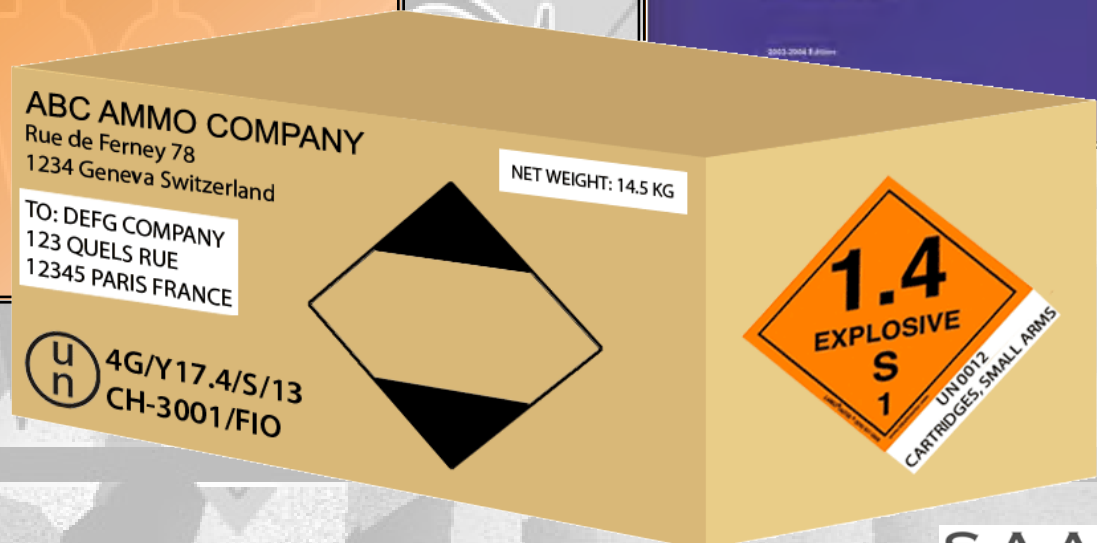
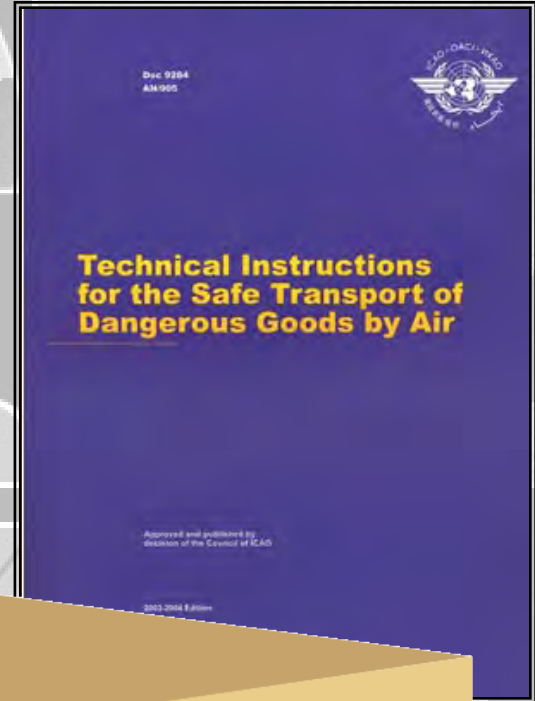
LQ EXEPTION	ICAO	IMO	US GROUND
SHIPPING PAPER	-	-	X
UN & PSN	-	X	X
HAZARD LABEL	-	X	X
PLACARDS	N/A	X	X
Spec Packaging	X*	X	X

\* LQ WEIGHT LIMITS DO NOT ALIGN BETWEEN AIR AND SURFACE

- UN REQUIRES SPEC PACKAGE FOR LQ AMMO
- NO ADVANTAGE BY AIR EXCEPT HARMONIZATION
- AMMO IS NOT LQ IN ICAO

# ICAO DECISION ON LQ AMMO

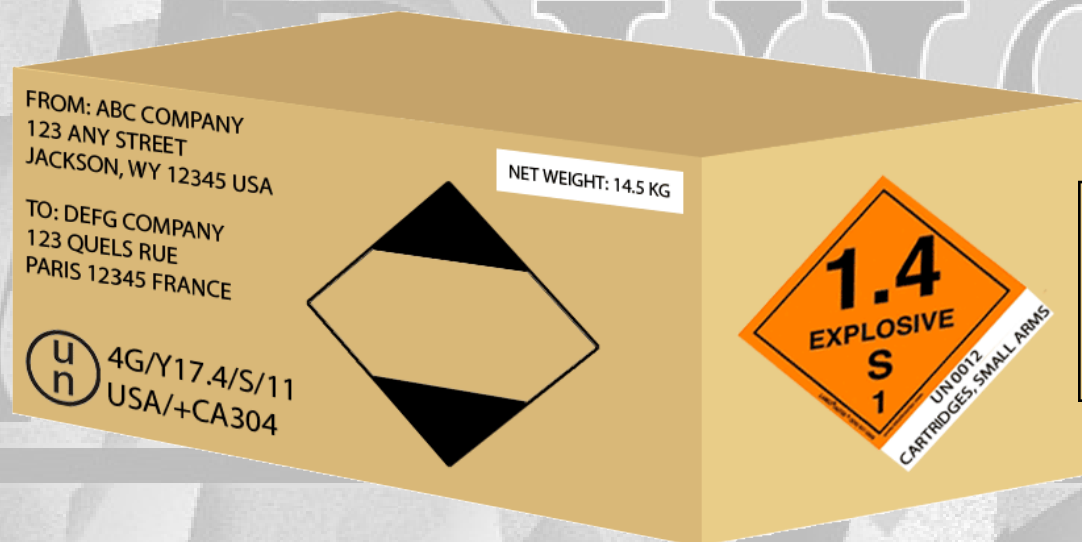
- Ammo Requires Spec Package In UN
- Spec Packaging Is Only Exception
- No Sense To Give LQ
- Allow And Ignore
- Practical Harmonization Issues



# ALLOW AND IGNORE

## 5;2.4.13 Markings Required By Other Modes of Transport

Markings required by other international or national transport regulations are permitted in addition to markings required by these Instructions, provided that they cannot be confused or conflict with any markings prescribed by these Instructions, because of their colour, design or shape.

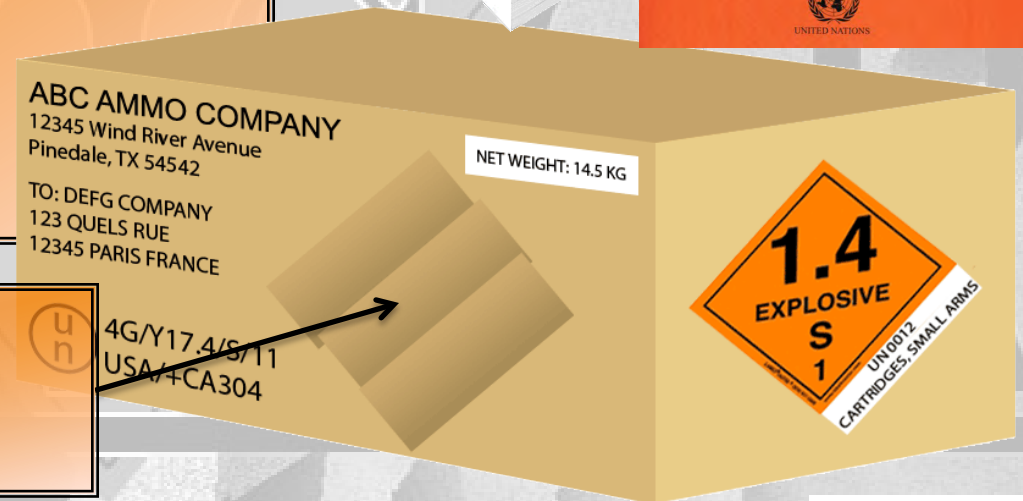


**Standard Ammo  
Package Prepared  
For International  
Air**



# ICAO DECISION CONSEQUENCES

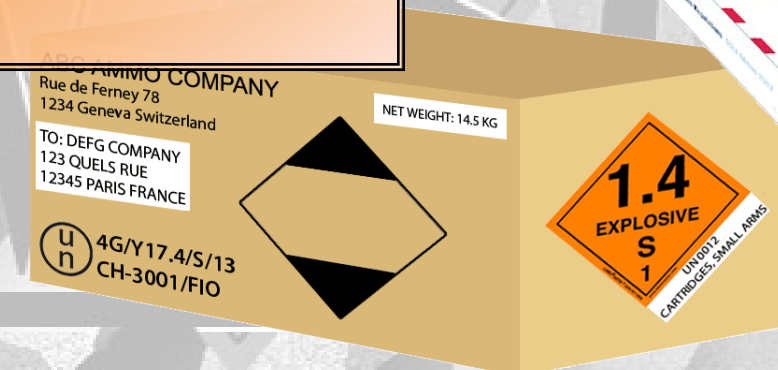
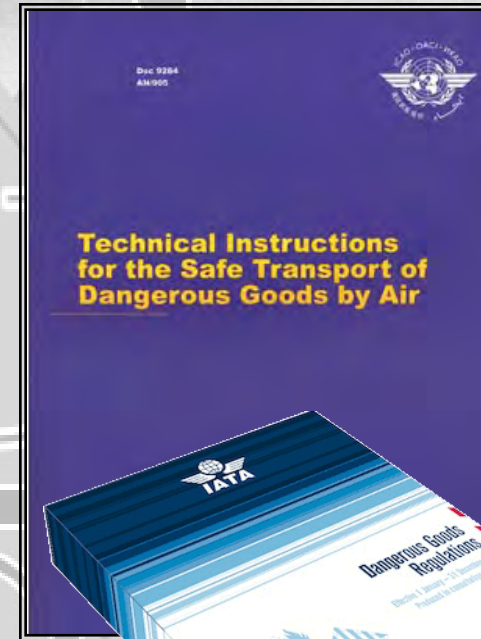
- ❑ Air Carriers Individually Refused To Allow & Ignore
- ❑ EU Road Inspectors Objected To Hazard Label With Surface LQ Mark
- ❑ Labor Cost To Obliterate LQ



**LABOR TO OBLITERATE  
SURFACE LQ MARK**

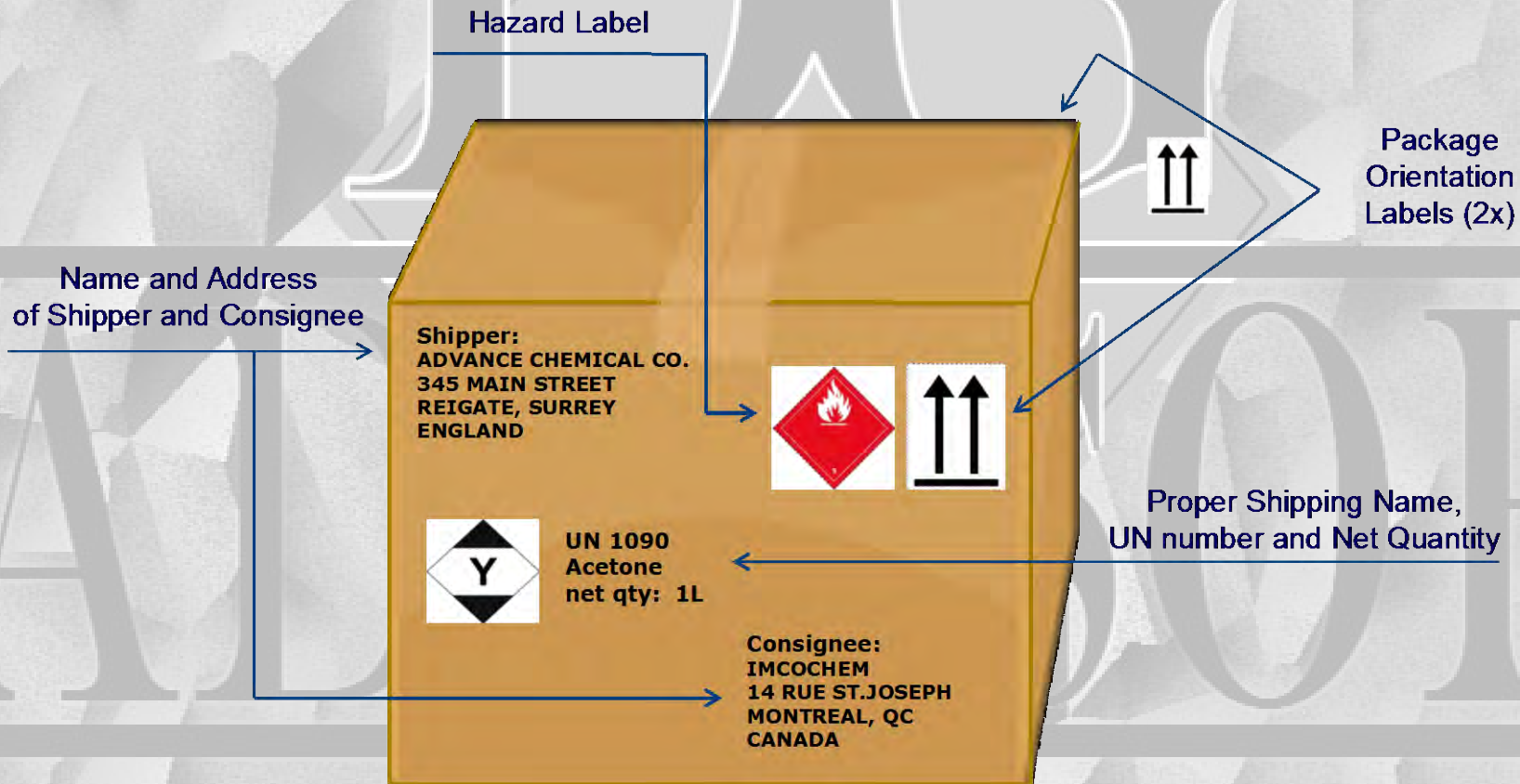
# SAAMI GOES BACK TO ICAO

- ❑ ICAO REAFFIRMS NO LQ
- ❑ Not Just An Ammo Issue
- ❑ ICAO Commits To Web Site Guidance
- ❑ IATA Members Begin To Accept Surface LQ Mark
- ❑ IATA Will Include Guidance In 2014 DGR



# NEW ICAO GUIDANCE (draft)

Limited Quantity for Air  
– Acceptable for Road and Sea as per UN 3.4.9



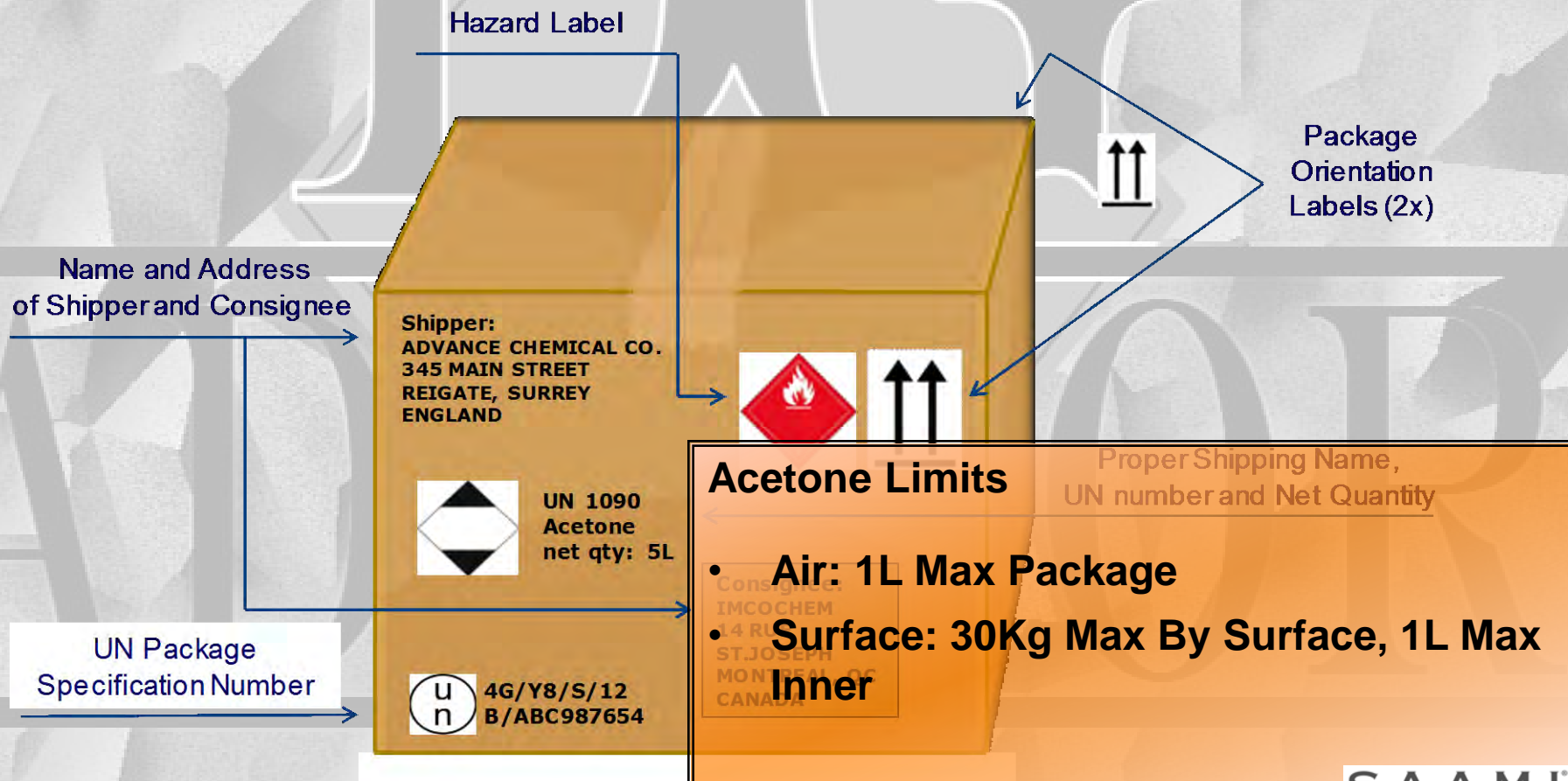
# ICAO GUIDANCE (CONT'D)

**Limited Quantity Road and SEA  
– Not acceptable for AIR**



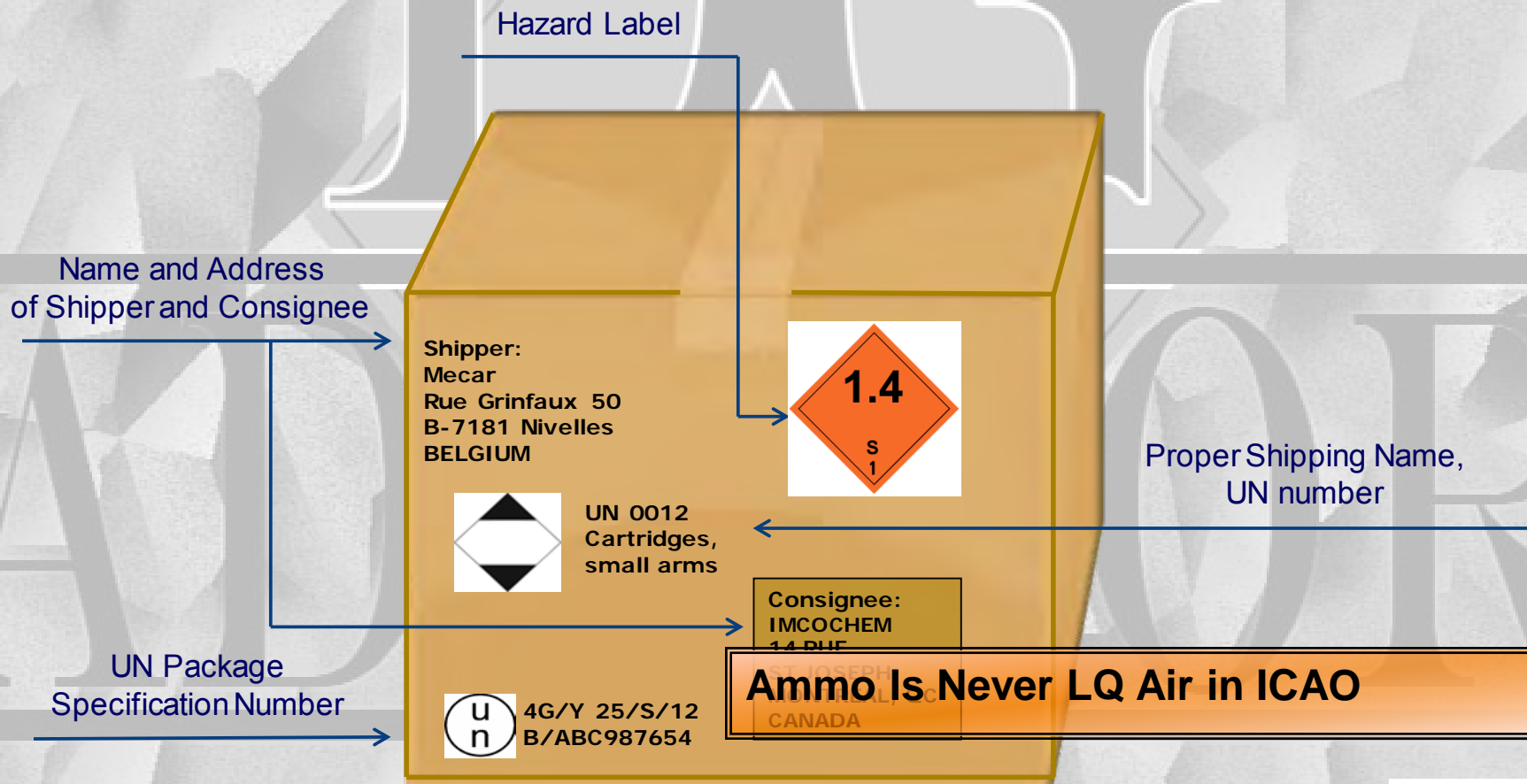
# ICAO GUIDANCE (CONT'D)

Limited Quantity Road and SEA – Fully Regulated for AIR – Proposed new UNMR 3.4.10



# ICAO GUIDANCE (CONT'D)

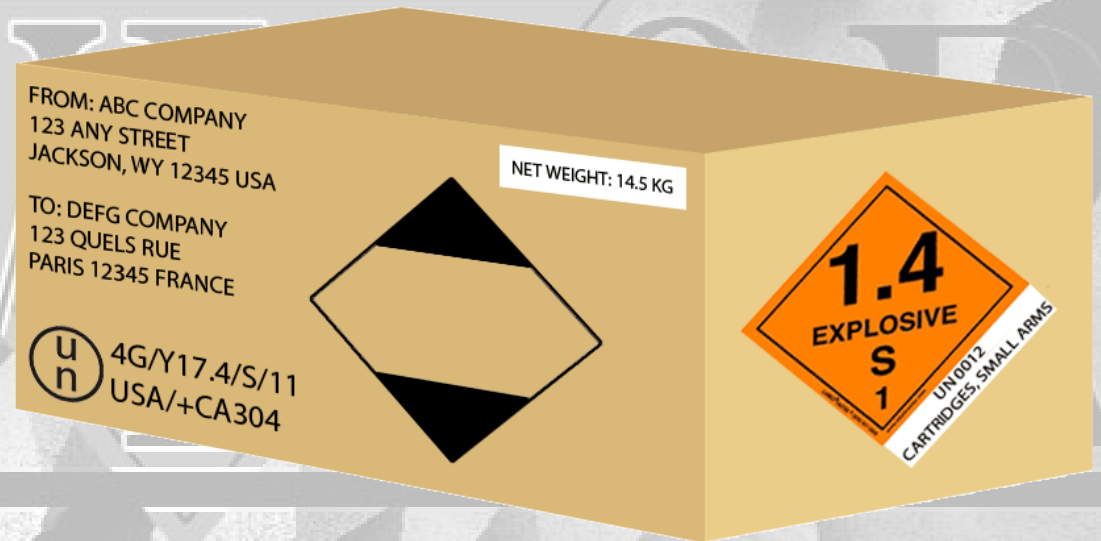
Limited Quantity Road and SEA – Fully Regulated for AIR – Proposed new UNMR 3.4.10



# IATA GUIDANCE

2014 IATA Will Contain Similar  
Guidance Per Dangerous  
Goods Board Decision Sept

2012



# SAAMI GOES BACK TO UN

- UNMR 18<sup>TH</sup> Edition Will Contain New 3.4.10 And Include Previous Pictures In Guiding Principles
- ADR Expected To Follow in **2015**

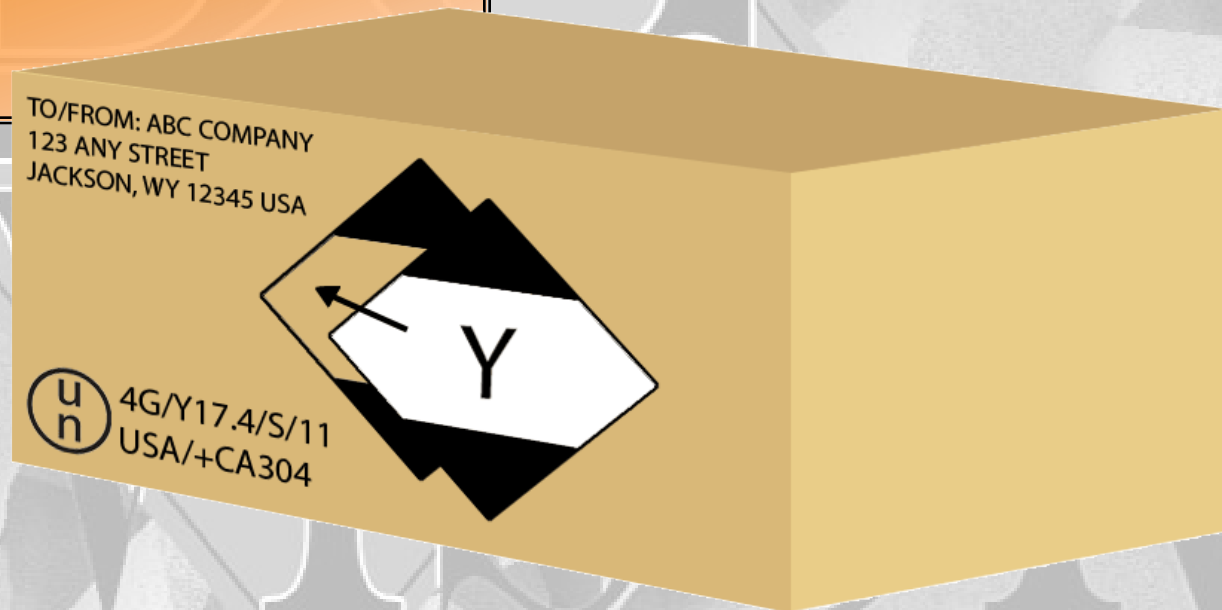


3.4.10 Packages containing dangerous goods in limited quantities bearing the marking shown in 3.4.7 and conforming with the provisions of the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air, including all necessary marks and labels specified in Parts 5 and 6, shall be deemed to meet the provisions of section 3.4.1 as appropriate and of sections 3.4.2 to 3.4.4 when transported by land or by sea.



# MEANWHILE IN THE USA

- ❑ HM215K Specified Y Mark For US Air
- ❑ ICAO Forbids Y-Mark



# USA 175.75 ACCESSIBILITY

- 25 Kg Shipment Limit
- Doesn't Apply To LQ/ORM-D, Applies To 1.4S
- Prevents Cargo On Most Passenger Aircraft
- Prevents Containerization On Cargo Aircraft
- Requires Cargo Aircraft Out Of US
- Some Countries May Only Practically Be Reached By Passenger Aircraft
- ITAR Ammo Chain of Custody Requirements Prevent Interlining
- Some Carriers Charge Extra For Accessible

# SAAMI HM215K APPEAL

## § 173.27(f)(2) Limited Quantities

Materials or articles *not* authorized as limited quantity by aircraft are:  
... (B) Class 1 (explosive) material (see § 173.63(b) of this part for exceptions provided to certain articles of Division 1.4S) ...

### Table 3

Class 1... Forbidden (See Note)

Note: See § 173.63(b) of this part for exceptions provided to certain articles of Division 1.4S

Clarification to 173.27

# SAAMI PETITION FOR RULEMAKING

- ❑ HM215K Appeal Results Inadequate
- ❑ Petition Requested Additional Clarity That Surface Mark Eliminates 175.75
- ❑ Notes Issues Caused For Exports By Accessibility
- ❑ Incorporated Into HM215L

## SAAMI

February 18, 2013

Division Operations US Department of Transportation  
Wise Building, Ground Floor Room W10-140  
Building Number 04-00  
1200 New Jersey Ave., SE  
Washington, DC 20590

Appeal of 804-0196 (Final Rule (Subset No. F80401-1) - 804-01) dated January 18, 2013.

The Sporting Arms and Ammunition Manufacturers' Institute (SAAMI) appeals the FM-1176 Final Rule in accordance with 49 CFR Part 816.

The Sporting Arms and Ammunition Manufacturers' Institute (SAAMI) was founded in 1926 at the request of the Federal government and creates industry standards for safety, interchangeability, reliability and quality. SAAMI works to shape the constantly evolving transportation and storage regulations, both international and domestic, so that SAAMI products can be distributed internationally, securely, and safely throughout the world.

### Issue

SAAMI appeals the prohibition of accessories or limited quantities in air transport in 17.075X(2)(b)(i): "Accessories or articles not authorized as limited quantities by paragraph (a) ... (B) Class I (explosives) and Class I (pyrotechnics) material."

However, as an applicant it is in exactly PHMSA's shoes to forbid accessories from limited quantities by air:

- (1) Table 1 of that subject, Class I in "Excludes, list of 17.03" Does this mean "Excludes, except use of 17.03?"
- (2) If 17.03 prohibitions (accessories in limited quantities) apply to all modes, and the notice specifically deals with air transport, there is no question of prohibiting limited quantities of accessories by air.

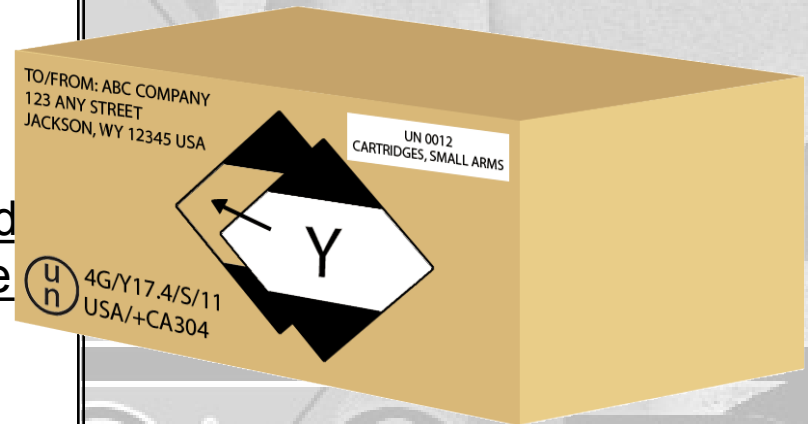
Therefore SAAMI's appeal is to modify 17.075X(2)(b)(i) to acknowledge that prohibitions authorized in limited quantities in 17.03 are allowed for air transport, and further clarify them in Table 1.

SAAMI FILED OFFICE COPY - 1100 NEW JERSEY AVENUE, SE WASHINGTON, DC 20590-0000 TEL 202-462-6000

# HM215L REVISION

## § 173.63 Packaging Exceptions Cont'd

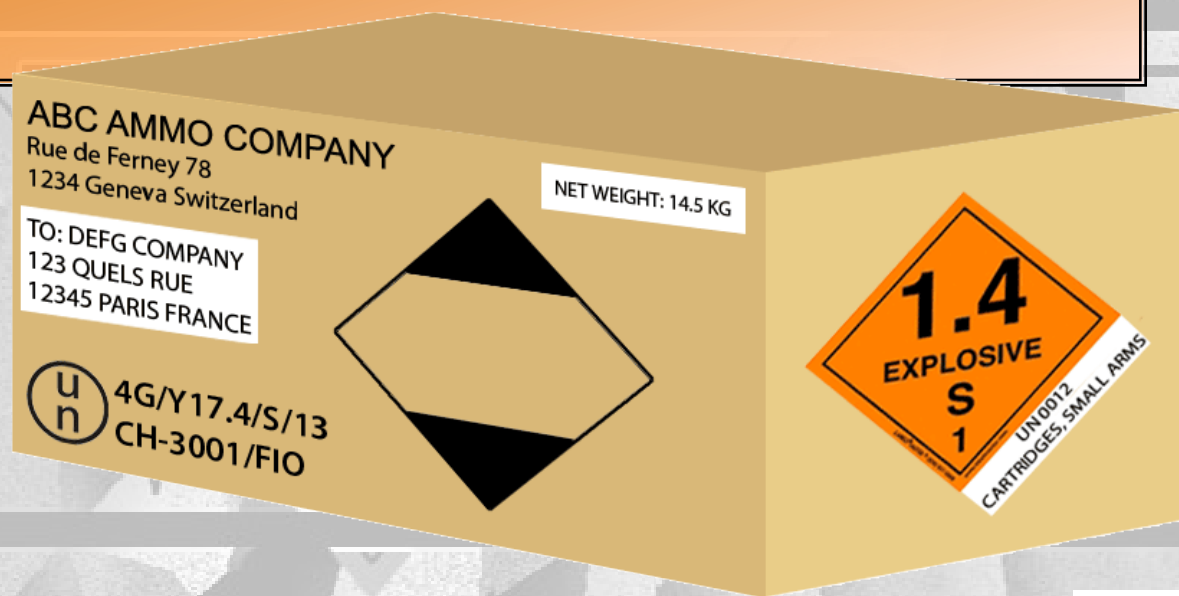
Packages containing such articles may be marked with either the marking prescribed in § 172.315(a) or (b) of this subchapter and offered for transportation and transported by any mode



- **HM215L: Either the Surface or Y-Mark Is Acceptable By Air**
- **Accessibility Doesn't Apply With Surface Mark**
- **PHMSA Plans To Phase Out The Y-Mark For Ammo**

# IMPACTS

- **LQ Surface Mark Good For All Modes Everywhere**
- **Eliminates US Accessibility Requirements**
- **No Interlining For Remote Destinations**
  - **Chain of Custody Requirements Prevent Interlining**
  - **Use The Appropriate National Passenger Carrier**



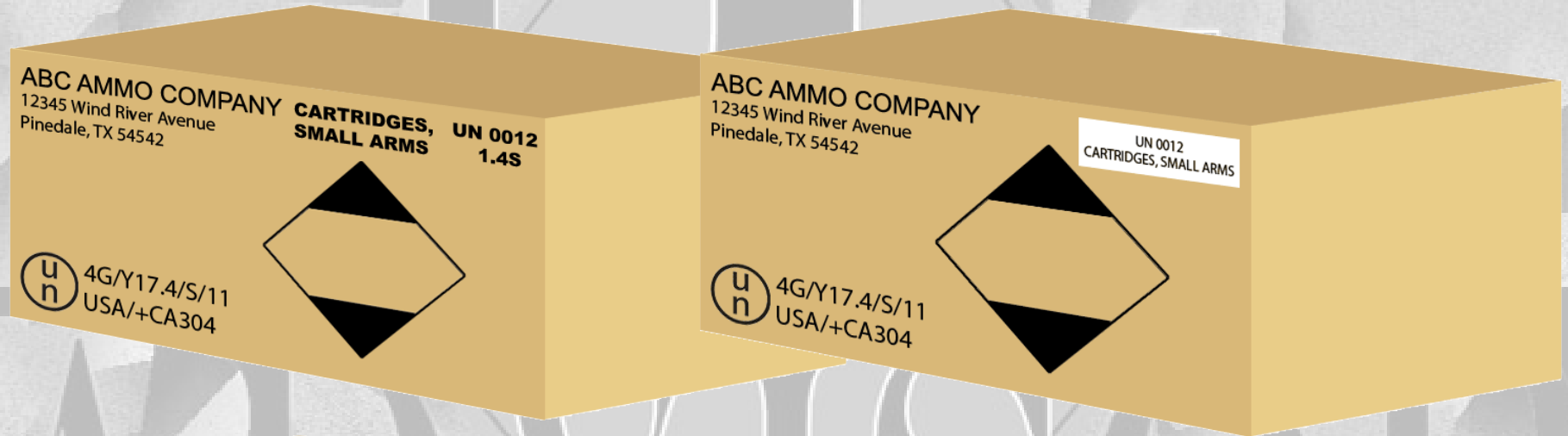
# NEW IN HM215L: UN# AND PSN

## § 173.63 Packaging Exceptions Cont'd

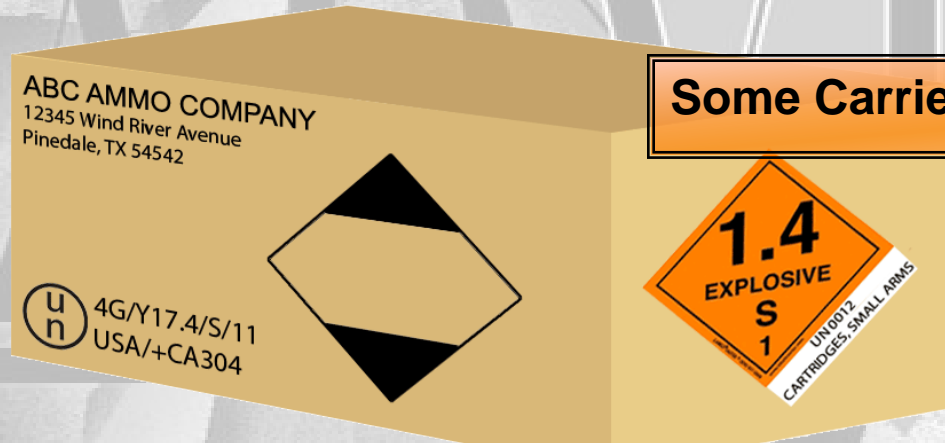
In addition, packages containing such articles offered for transportation by aircraft must be marked with the proper shipping name as prescribed in the § 172.101 Hazardous Materials Table of this subchapter.



# UN# AND PSN SOLUTIONS FOR DOMESTIC AIR



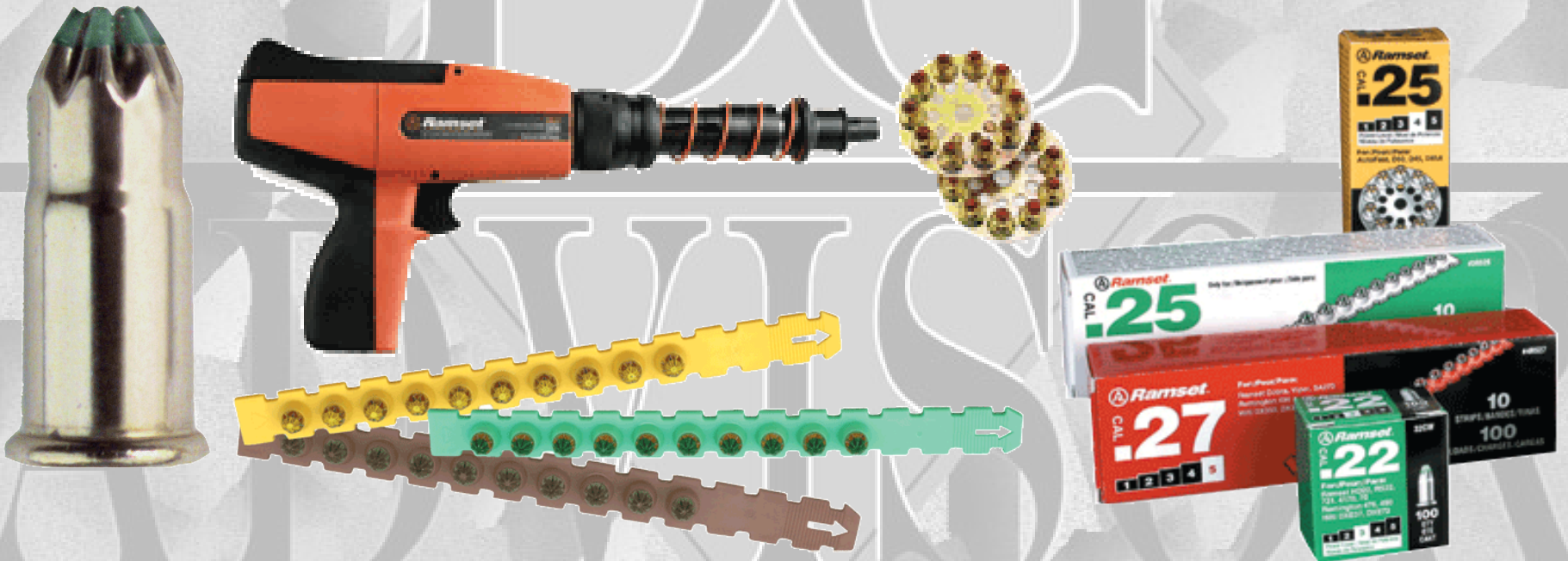
**Some Carriers Stop 1.4S Labeled Boxes**





# BY THE WAY

- TI 2013-2014 Includes “Cartridges for tools, blank” Proper Shipping Name for UN 0014





# S A A M I<sup>®</sup>

SPORTING ARMS AND AMMUNITION MANUFACTURERS' INSTITUTE, INC.

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**2013 LOGISTICS SEMINAR**

# POWER DEVICE CARTRIDGES

# SAAMI<sup>®</sup>

SPORTING ARMS AND AMMUNITION MANUFACTURERS' INSTITUTE, INC.

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## 2013 LOGISTICS SEMINAR - Ammunition & Components -

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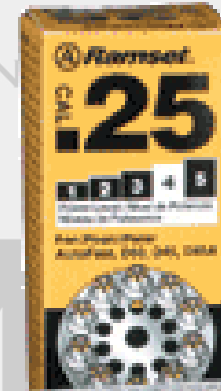
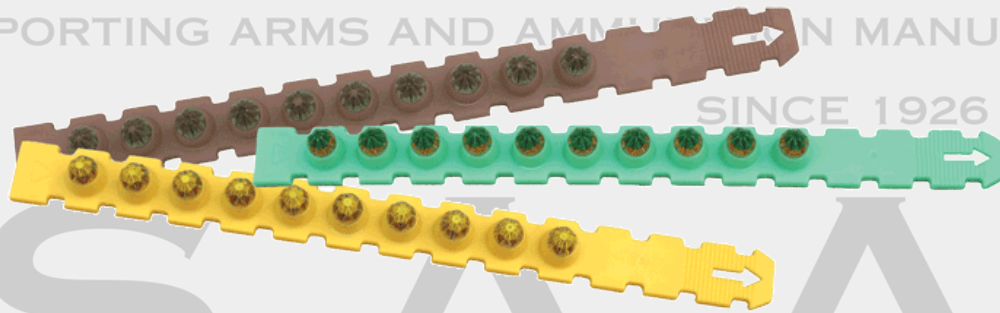
# “POWER LOADS”

Used In:

- ❑ Nail Guns For Concrete And Metal
- ❑ Other Tools
- ❑ Electric Circuit Breakers



# FOR NAIL GUNS



Available In:

- .22 Caliber  
(Home Use)
- .25 Caliber
- .27 Caliber

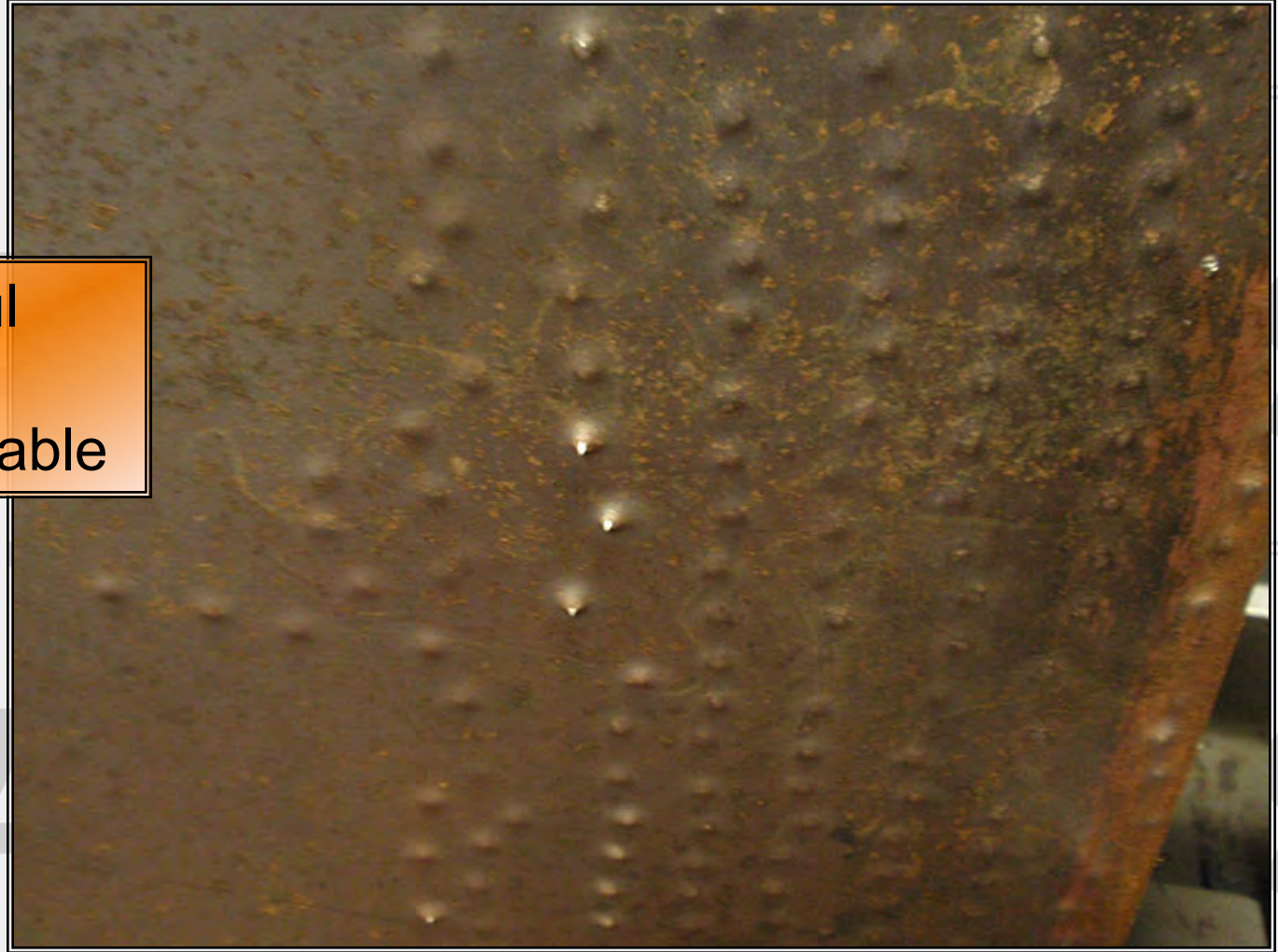
# NAILS



Nails In Strips Also

# FASTENING STEEL TO STEEL

- Powerful
- Quick
- Dependable



# HIGH QUALITY CONTROL

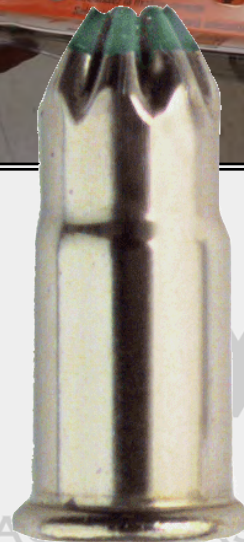
- 1/100 Function Tested
- Speed
- Power
- Loading





# CONSUMER VERSION

Power device cartridges used to project fastening devices are sold at retail for home improvement.



# STATISTICS

- ❑ Annual production in North America & Europe: 3.3 Billion
- ❑ Used by 200,000 construction companies in the EU
- ❑ EU tools made/sold by 400 companies = 4 -4.5K employees



Source: Business  
Plan of CEN-TC213

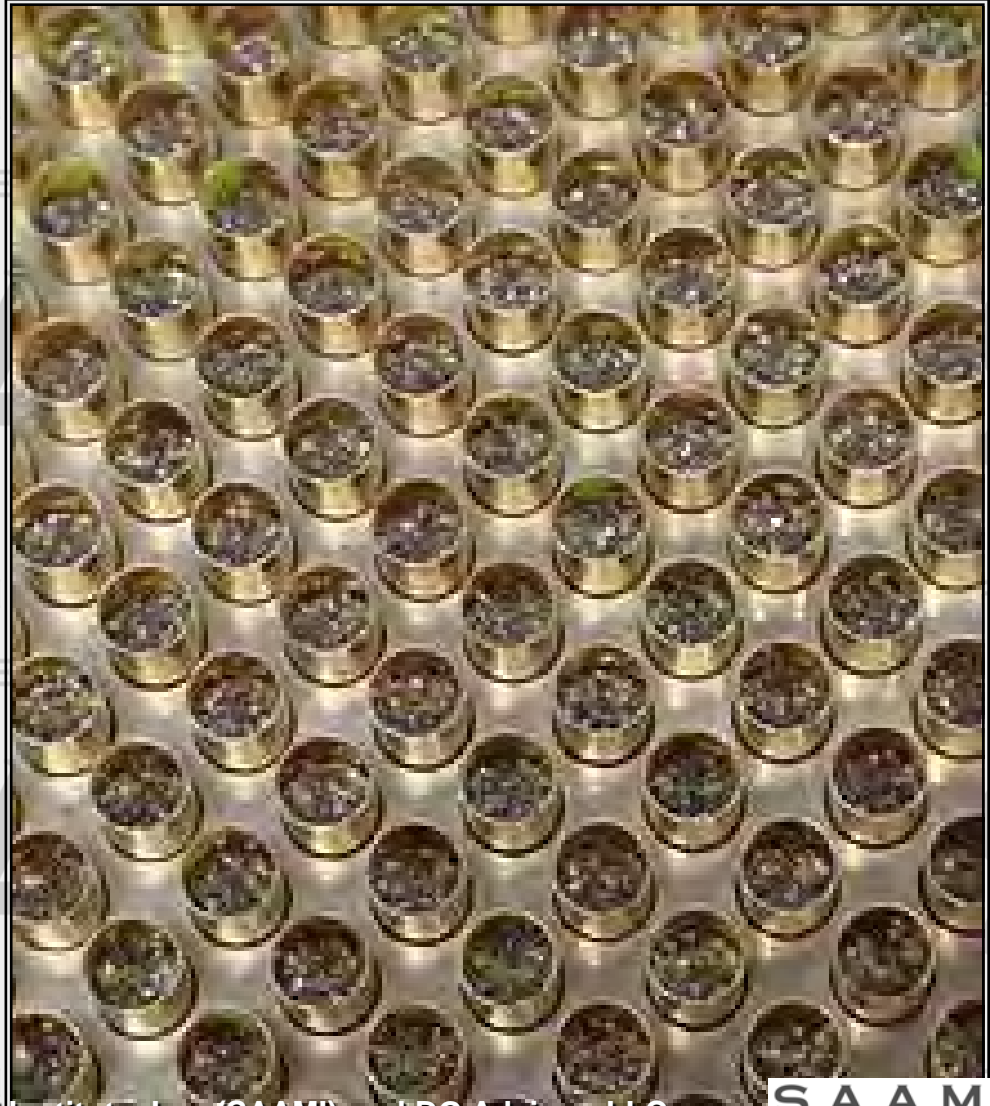
# MANUFACTURING STEP 1: PRIMED CASES

- ❑ Power Device Cartridges Are Similar To Blank Ammunition, and Begin With Primed Rim-fire Cases



# STEP 2: SMOKELESS POWDER

- ☐ Smokeless Propellant is Placed In Primed Rim-Fire Cases



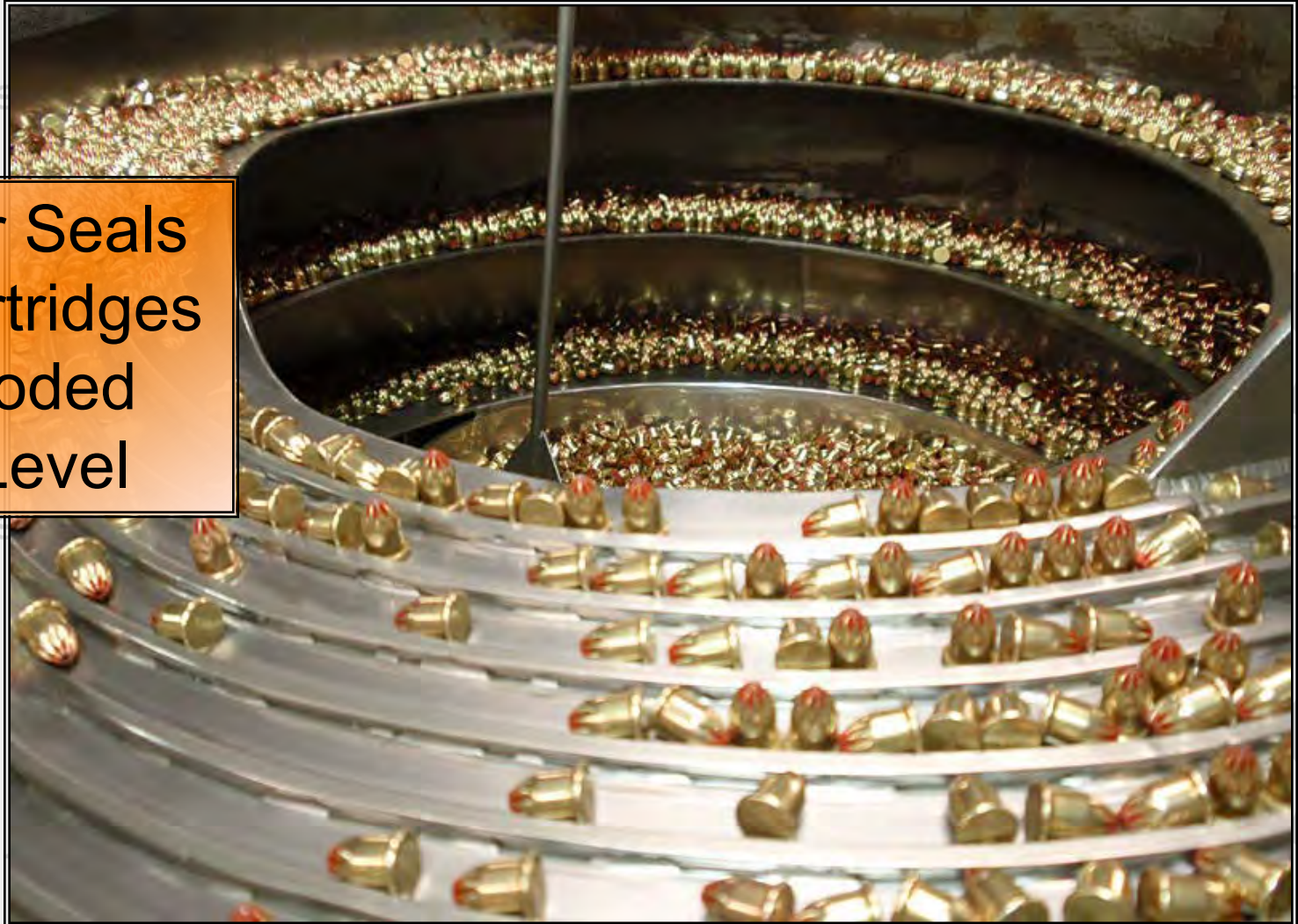
# STEP 3: CRIMP

Cartridges Are Crimped



# STEP 4: LACQUER

- ❑ Lacquer Seals The Cartridges
- ❑ Color Coded Power Level



# STEP 5: STRIP

- ❑ Cartridges Inserted In Strips For Efficient Use In Tools



SA

# INNER / INTERMEDIATE PACKAGING

Typical Inner Configuration:

- ❑ 100/ Inner And 1K/Intermediate; or -
- ❑ 1K/Inner

Typical Outer Config:  
❑ 10K/Combination Packaging



100 Inners, 10/Intermed.



1,000

100 Loose

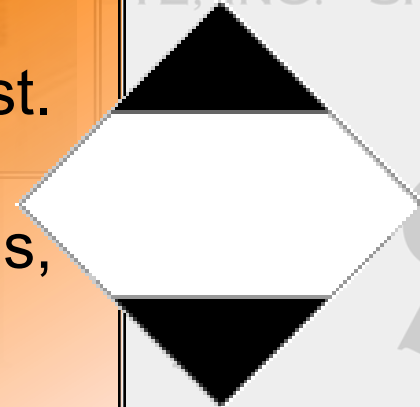


# LONG STRIP VARIANT



- ❑ 40 Power Loads / Strip
- ❑ 20K Per Package

# CLASSIFICATION



## OLD:

- UN 0323, Cartridges, power device, 1.4S. (ORM-D Until 12/31/20). Requires 6(d) Test.

## NEW:

- UN 0014, Cartridges for tools, blank, 1.4S, PG II, Ltd Qty No 6(d) Test



# READY TO SHIP

- ❑ Can Be >1 Million Per Pallet
- ❑ North America / Europe Annual Production: 3.3 Billion



# 6(D) TEST ON POWER LOADS



- Pass The Test Easily
- Required For UN 0323

# HM215L REGULATORY CHANGES

Sym-bols  (1)	Hazardous materials descrip-tions and proper shipping names  (2)	Hazar-d class or divi-sion  (3)	Identi-fication Numbers  (4)	PG  (5)	Label Codes  (6)	Special Provisions (§ 172.102)  (7)	(8)			(9)		(10)	
							Packaging (§ 173.***)			Quantity limitations (see §§ 173.27 and 175.75)		Vessel stowage	
							Exce-p-tions  (8A)	Non-bulk  (8B)	Bulk  (8C)	Passenger aircraft/ra-il  (9A)	Cargo air-craft only  (9B)	Loca-tion  (10A)	Other  (10B)
	[REMOVE]												
	Cartridges for weapons, blank or Cartridges, small arms, blank	1.4S	UN0014	II	None		63	62	None	25 kg	100 kg		
	[ADD]												
	Cartridges for weapons, blank or Cartridges, small arms, blank or Cartridges for tools, blank	1.4S	UN0014	II	1.4S NONE		63	62	None	25 kg	100 kg	01 -05-	25
	[REVISE]												
	Cartridges, power device	1.4S	UN0323	II	1.4S	110, 347	None -63-	62	62	25 kg	100 kg	-05-01	25

- New Proper Shipping Name “Cartridges for tools, blank”
- Typo, 1.4S Label Should be “None”
- Stowage Changed Like All Class 1
- UN 0323 OK For ORM-D Not LQ

# HM215L - NO EX# APPROVAL

In § 173.56 paragraph (h)(2) is revised to read as follows:

\* \* \* \* \*

(h) The requirements of this section do not apply to cartridges, small arms which are:

- (1) Not a forbidden explosive under § 173.54 of this subchapter;
- (2) Ammunition for rifle, pistol, or shotgun, or tools;
- (3) Ammunition with inert projectile or blank ammunition; and
- (4) Ammunition not exceeding 50 caliber for rifle or pistol cartridges or 8 gauge for shotgun shells.

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

The US Department of Transportation  
Competent Authority for the United States

400 South Street, SW  
Washington, D.C. 20590

**CLASSIFICATION OF EXPLOSIVES**

Based upon a request by Federal State Unitary Enterprise, Murom Apparatus Producing Plant, Murom City, Vladimir Region, RUSSIA, the following items are classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR). A copy of your application, all supporting documentation and a copy of this approval must be retained and made available to DOT upon request.

**U.N. PROPER SHIPPING NAME AND NUMBER:**  
Primers, cap type, UN0044

**U.N. CLASSIFICATION CODE:** 1.4S

**REFERENCE NUMBER:** EX200702014  
**PRODUCT DESIGNATION/PART NUMBER:** Wolf Brand Shot Shell Primers (D/N KV 209)

**NOTES:**  
This classification is only valid when the primers are packaged as follows: Inner Packaging - Trays, plastic with recessed cavities, each containing not more than one hundred (100) primers uniformly segregated apart in up to a 10x10 array covered with slip-over cardboard or paperboard sleeve enclosures. Intermediate Packaging - Box, cardboard or paperboard, each containing not more than ten (10) inner packaging in up to five (5) layers. Outer Packaging - UN 4G fiberboard box, each containing not more than five (5) intermediate packagings.

**DATED:** March 5, 2007

Approved by:  
  
Bob Flaherty  
Deputy Associate Administrator for  
Hazardous Materials Safety

Tracking No: 2007020441 Page 1 of 1

# HM215L - DEFINITION

Definition of Cartridges, Blank in 173.59 Amended:

\* \* \* \* \*

Cartridges, blank. Articles that consist of a cartridge case with a center or rim fire primer and a confined charge of smokeless or black powder, but no projectile. Used in training, saluting, or in starter pistols, tools, etc.

\* \* \* \* \*



# HM215L – 173.63(b)(1)

## § 173.63 Packaging exceptions.

\* \* \* \* \*

*(b) Limited quantities of Cartridges, small arms, Cartridges, power devices, Cartridges for tools, blank, and Cases, cartridge, empty with primer.*



- 173.63(b) Assigns Small Arms Cartridges To ORM-D and LQ
- Modified Throughout For New PSN “Cartridges for tools, blank”
- ORM-D Extended Until December 31, 2020



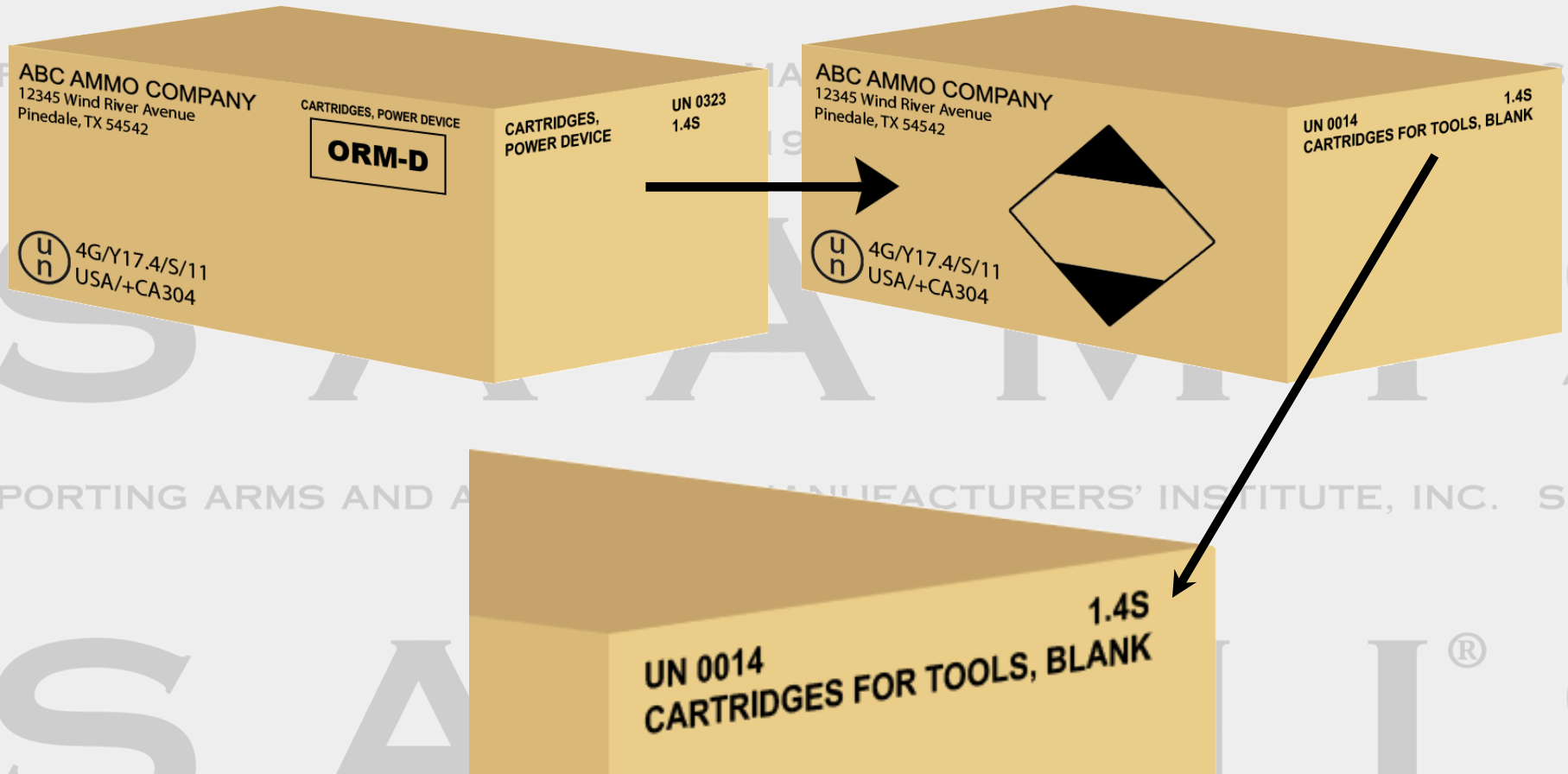
# HM215L – 173.63(b)(2)

173.63(b)(2)(v)

Cartridges for tools, blank,  
Cases, cartridge, empty  
with primer, and 22 caliber  
rim-fire cartridges may be  
packaged loose in strong  
outside packagings.



# OLD VS. NEW MARKINGS



UN # & Proper Shipping Name Are Optional

# SHIPPING PAPERS

- Not Required For Ground Shipments In US or Europe
- Use Equivalency Certificate in Canada
- For Ocean & US Air Shipments, Basic Shipping Description Is:  
“UN 0014, Cartridges for tools, blank, 1.4S, PG II, LTD QTY”
- For International Air Shipments, No LQ; Basic Shipping Description Is:  
“UN 0014, Cartridges for tools, blank, 1.4S, PG II”



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## 2013 LOGISTICS SEMINAR

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**49 CFR**

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# CLASS 1 DEFINITIONS

**An explosive means any substance or article, including a device, which is designed to function by explosion (i.e., an extremely rapid release of gas and heat) or which, by chemical reaction within itself, is able to function in a similar manner even if not designed to function by explosion, unless the substance or article is otherwise classed under the provisions of this subchapter.**

# AMMO PRODUCTS

Sec. 172.101 Hazardous Materials Table

Sym bols	Hazardous materials description and proper shipping names	Hazard class or division	Identifi- cation  Num- bers	PG	Label Codes	Special provi- sions	(8) Packaging (\$173.***)			(9) Quantity limitations		(10) Vessel stowage	
							Excep- tions	Non- bulk	Bulk	Passenger aircraft/rail	Cargo air- craft only	Loca- tion	Other
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
	Cartridges for weapons, blank or Cartridges, small arms, blank or Cartridges for tools, blank	1.4S	UN0014	II	None	-	63	62	None	25 kg	100 kg	01	25
	Cartridges for weapons, inert projectile or Cartridges, small arms	1.4S	UN0012	II	None	-	63	62	None	25 kg	100 kg	01	25
D	Cartridges, small arms	ORM-D		-	None	222	63	None	None	30 kg gross		A	-
D	Cartridges, power device ( <i>used to project fastening devices</i> )	ORM-D		-	None	222	63	None	None	30 kg gross	-	A	-
	Cases, cartridge, empty with primer	1.4S	UN0055	II	1.4S	50	63	62	None	25 kg	100 kg	01	25
	Powder, smokeless	1.3C	UN0161	II	1.3C	-	None	62	None	Forbidden	Forbidden	04	25, 26E
	Powder, smokeless	1.4C	UN0509		1.4C	-	None	62	None	Forbidden	75 kg	02	25
	Primers, cap type	1.4S	UN0044	II	None	-	None	62	None	25 kg	100 kg	01	25
	Primers, cap type	1.4B	UN0378	II	1.4B	-	None	62	None	Forbidden	75 kg	05	25
	Propellant, solid	1.3C	UN0499	II	1.3C	-	None	62	None	Forbidden	Forbidden	04	25, 26E
	Propellant, solid	1.4C	UN0501		1.4C	-	None	62	None	Forbidden	Forbidden	02	25, 24E
D	Smokeless powder for small arms	4.1	NA3178	II	4.1	16	None	171	None	Forbidden	7.3 kg	A	-

# 1.3 CLASSIFICATIONS



UN 0488	Ammunition, practice	 	1.3G
UN 0335	Fireworks		1.3G
UN 0161	Powder, smokeless		1.3C
UN 0499	Propellant, solid		1.3C
UN 0093	Flares, aerial		1.3G
UN 0359	Substances, explosive, n.o.s		1.3L

Division 1.3 consists of explosives that have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but not a mass explosion hazard.



# 1.4 CLASSIFICATIONS

Division 1.4 consists of explosives that present a minor explosion hazard. The explosive effects are largely confined to the package and no projection of fragments of appreciable size or range is to be expected. An external fire must not cause virtually instantaneous explosion of almost the entire contents of the package.

UN 0378	Primers, cap type		1.4B
UN 0509	Powder, smokeless		1.4C
UN 0012	Cartridges, small arms		1.4S
UN 0494	Jet perforating guns, charged, <i>oil well, without detonator</i>		1.4D
UN 0055	Cases, cartridge, empty with primer		1.4S

# COMPATIBILITY GROUP S

UN 0441	Charges, shaped, <i>without detonator</i>	1.4S
UN 0456	Detonators, electric <i>for blasting</i>	1.4S

**Compatibility Group S consists of substances or articles so packed or designed that any hazardous effects arising from accidental functioning are limited to the extent that they do not significantly hinder or prohibit fire fighting or other emergency response efforts in the immediate vicinity of the package.**

UN 0012	Cartridges, small arms	1.4S
UN 0014	Cartridges, small arms, blank	1.4S
UN 0055	Cases, cartridge, empty with primer	1.4S



# CLASSIFICATION CONSEQUENCES

	1.3C Powder	1.4 Other Than S	1.4S Ammo or Primers	4.1 Powder (100# MAX)	ORM-D Ammunition
Burn Testing	X	X	-	X	-
Shipping Paper	X	X	X	X	Air Only
Marking	X	X	X	X	X
Labels	X	X	-	X	-
Placards	X	(over 1000#)	-	-	-
Emergency Response	X	X	X	X	-
Training	X	X	X	X	X
Security Plan	X	-	-	-	-
CDL	X	X	X	X	-
FMCSAHMSP	X	-	-	-	-
\$5MM Insurance	X	-	-	-	-
Attendance	X	-	-	-	-
Package Testing	X	X	X	X	-
HazMat Fee	N/A	X	X	X	Air Only
Air Transport	Forbidden	For./ C. Only	Passenger	Cargo Only	Passenger

© 2013 Sporting Arms and Ammunition Manufacturers' Institute, Inc. (SAAMI) and DGT Advisor, LLC  
 Only ammunition may be shipped or taken as checked baggage on passenger aircraft.

# CLASS 1: EXPLOSIVES

“Unless otherwise provided in this subpart, no person may offer for transportation or transport an explosive, unless it has been tested and classed

and approved.”

- Self-Classification Is Usually Not Allowed – Written Approval Required
- Packaging May Be



U.S. Department  
of Transportation

400 Seventh Street, SW,  
Washington, D.C. 20590

Pipeline and Hazardous  
Materials Safety Administration

The US Department of Transportation  
Competent Authority for the United States

## CLASSIFICATION OF EXPLOSIVES

Based upon a request by Federal State Unitary Enterprise, Murom Apparatus Producing Plant, Murom City, Vladimir Region, RUSSIA, the following items are classed in accordance with Section 173.56, Title 49, Code of Federal Regulations (49 CFR). A copy of your application, all supporting documentation and a copy of this approval must be retained and made available to DOT upon request.

### U.N. PROPER SHIPPING NAME AND NUMBER:

Primers, cap type, UN0044

### U.N. CLASSIFICATION CODE: 1.4S

### REFERENCE NUMBER

EX2007020114

### PRODUCT DESIGNATION/PART NUMBER

Wolf Brand Shot Shell Primers (D/N KV 209)

### NOTES:

This classification is only valid when the primers are packaged as follows: Inner Packaging - Trays, plastic with recessed cavities, each containing not more than one hundred (100) primers uniformly segregated apart in up to a 10x10 array covered with slip-over cardboard or paperboard sleeve enclosures. Intermediate Packaging - Box, cardboard or paperboard, each containing not more than ten (10) inner packagings in up to five (5) layers. Outer Packaging - UN 4G fiberboard box, each containing not more than five (5) intermediate packagings.

DATED: March 5, 2007

Approved by:

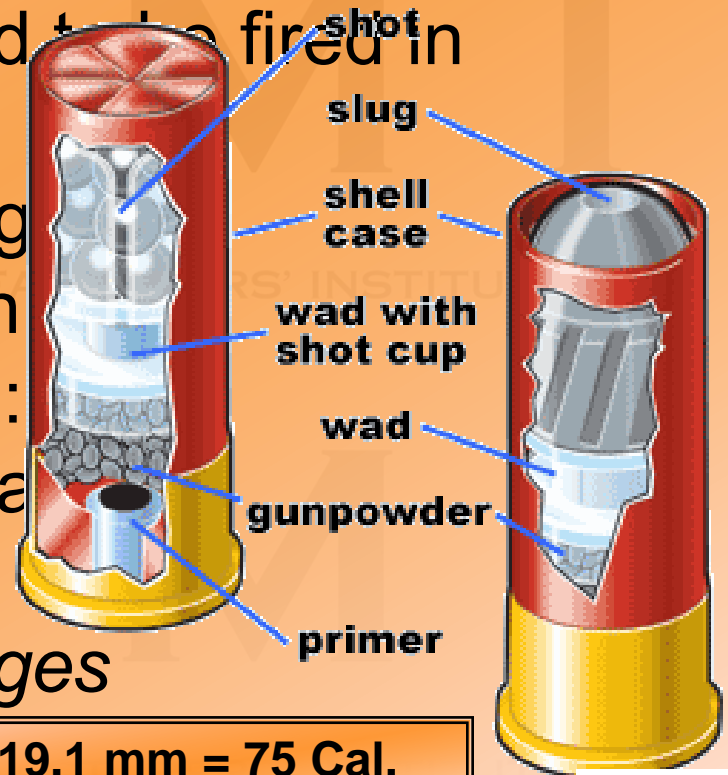
Bob Richard  
Deputy Associate Administrator for  
Hazardous Materials Safety

Tracking No: 2007020441

Page 1 of 1

# DEFINITIONS

**Cartridges, small arms** – Ammunition consisting of a cartridge case fitted with a center or rim fire primer and containing both a propelling charge and solid projectile(s). They are designed to be fired in weapons of caliber not larger than 19.1 mm. Shotgun cartridges of any caliber are included in the description. The term excludes: Cartridges, small arms, blank, and some military small arms cartridges listed under *Cartridges*



*for weapons, inert projectile*

19.1 mm = 75 Cal.

# 1.4S AMMUNITION SELF-CLASSIFICATION

**Max 19.1mm (3/4”), Except:**

- **49 CFR 173.56(h):** In the US, small arms ammunition may be self classified as 1.4S when:
  - \* For rifle, pistol or shotgun
  - \*  $\leq 50$  cal (12.7mm) or 8 gauge
  - \* Inert or blank (no incendiary, exploding projectiles, etc.)

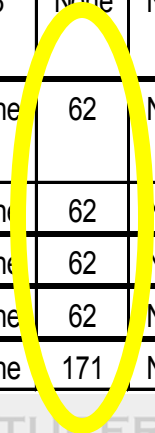


# APPROVING AN EXPLOSIVE

Sec. 172.101 Hazardous Materials Table

Sym bols	Hazardous materials description and proper shipping names	Hazard class or division	Identifi- cation Num- bers	PG	Label Codes	Special provi- sions	(8) Packaging (\$173.***)			(9) Quantity limitations		(10) Vessel stow age	
							Excep- tions (8A)	Non- bulk (8B)	Bulk (8C)	Passenger aircraft/rail (9A)	Cargo air- craft only (9B)	Loca- tion (10A)	Other (10B)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
	Cartridges for weapons, blank	1.4S	UN0014	II	None	-	63	62	None	25 kg	100 kg	5	5
	Cartridges for weapons, inert	1.4S	UN0014	II	None	-	63	62	None	25 kg	100 kg	5	5
	projectile or Cartridges, small arms												
D	Cartridges, small arms	ORM-D		-	None	-	63	None	None	30 kg gross	30 kg gross	A	-
D	Cartridges, power device (used to project fastening devices)	ORM-D		-	None	-	63	None	None	30 kg gross	30 kg gross	A	-
	Cases, cartridge, empty with primer	1.4S	UN0055	II	1.4S	50	None	62	None	25 kg	100 kg	5	-
	Pow der, smokeless	1.3C	UN0161	II	1.3C	-	None	62	None	Forbidden	Forbidden	-	26E
	Primers, cap type	1.4S	UN0044	II	None	-	None	62	None	25 kg	100 kg	05	-
	Primers, cap type	1.4B	UN0378	II	1.4B	-	None	62	None	Forbidden	75 kg	07	-
D	Smokeless powder for small arms	4.1	NA3178	II	4.1	16	None	171	None	Forbidden	7.3 kg	A	-

**FIND THE PACKING INST.**



# 173.62 PACKING INSTRUCTIONS

- Non-bulk explosives packaging is limited to prescribed types and combinations
- Each UN number is assigned to a packing instruction
- Each packing instruction lists the permitted types of inner, intermediate and outer packagings which

are allowed

EXPLOSIVES TABLE

ID#	PI
UN0010	130
UN0012	130
UN0014	130
UN0015	130
UN0042	132
UN0043	133
UN0044	133
UN0048	130
UN0049	135
UN0050	135
UN0054	135
UN0055	136
UN0056	130
UN0059	137
UN0100	111
UN0160	114(b)
UN0161	114(b)
UN0167	130
UN0168	130
UN0377	133
UN0378	133
UN0379	132



# PACKING INSTRUCTIONS

Pipeline and Hazardous Materials Safety Admin., DOT

§ 173.62

TABLE OF PACKING METHODS—Continued

Packing instruction	Inner packagings	Intermediate packagings	Outer packagings
<p>130</p> <p>PARTICULAR PACKING REQUIREMENTS OR EXCEPTIONS:</p> <p>1. The following applies to UN 0006, 0009, 0010, 0015, 0016, 0018, 0019, 0034, 0035, 0038, 0039, 0048, 0056, 0137, 0171, 0181, 0182, 0183, 0243, 0244, 0245, 0246, 0286, 0287, 0297, 0299, 0321, 0328, 0329, 0344, 0362, 0363, 0370, 0412, 0435, 0436, 0437, 0438, 0439, 0440, 0441, 0442, 0443, 0444, 0445, 0446, 0447, 0448, 0449, 0450, 0451, 0452, 0453, 0454, 0455, 0456, 0457, 0458, 0459, 0460, 0461, 0462, 0463, 0464, 0465, 0466, 0467, 0468, 0469, 0470, 0471, 0472, 0473, 0474, 0475, 0476, 0477, 0478, 0479, 0480, 0481, 0482, 0483, 0484, 0485, 0486, 0487, 0488, 0489, 0490, 0491, 0492, 0493, 0494, 0495, 0496, 0497, 0498, 0499, 0500, 0501, 0502, 0503, 0504, 0505, 0506, 0507, 0508, 0509, 0510, 0511, 0512, 0513, 0514, 0515, 0516, 0517, 0518, 0519, 0520, 0521, 0522, 0523, 0524, 0525, 0526, 0527, 0528, 0529, 0530, 0531, 0532, 0533, 0534, 0535, 0536, 0537, 0538, 0539, 0540, 0541, 0542, 0543, 0544, 0545, 0546, 0547, 0548, 0549, 0550, 0551, 0552, 0553, 0554, 0555, 0556, 0557, 0558, 0559, 0560, 0561, 0562, 0563, 0564, 0565, 0566, 0567, 0568, 0569, 0570, 0571, 0572, 0573, 0574, 0575, 0576, 0577, 0578, 0579, 0580, 0581, 0582, 0583, 0584, 0585, 0586, 0587, 0588, 0589, 0590, 0591, 0592, 0593, 0594, 0595, 0596, 0597, 0598, 0599, 0600, 0601, 0602, 0603, 0604, 0605, 0606, 0607, 0608, 0609, 0610, 0611, 0612, 0613, 0614, 0615, 0616, 0617, 0618, 0619, 0620, 0621, 0622, 0623, 0624, 0625, 0626, 0627, 0628, 0629, 0630, 0631, 0632, 0633, 0634, 0635, 0636, 0637, 0638, 0639, 0640, 0641, 0642, 0643, 0644, 0645, 0646, 0647, 0648, 0649, 0650, 0651, 0652, 0653, 0654, 0655, 0656, 0657, 0658, 0659, 0660, 0661, 0662, 0663, 0664, 0665, 0666, 0667, 0668, 0669, 0670, 0671, 0672, 0673, 0674, 0675, 0676, 0677, 0678, 0679, 0680, 0681, 0682, 0683, 0684, 0685, 0686, 0687, 0688, 0689, 0690, 0691, 0692, 0693, 0694, 0695, 0696, 0697, 0698, 0699, 0700, 0701, 0702, 0703, 0704, 0705, 0706, 0707, 0708, 0709, 0710, 0711, 0712, 0713, 0714, 0715, 0716, 0717, 0718, 0719, 0720, 0721, 0722, 0723, 0724, 0725, 0726, 0727, 0728, 0729, 0730, 0731, 0732, 0733, 0734, 0735, 0736, 0737, 0738, 0739, 0740, 0741, 0742, 0743, 0744, 0745, 0746, 0747, 0748, 0749, 0750, 0751, 0752, 0753, 0754, 0755, 0756, 0757, 0758, 0759, 0760, 0761, 0762, 0763, 0764, 0765, 0766, 0767, 0768, 0769, 0770, 0771, 0772, 0773, 0774, 0775, 0776, 0777, 0778, 0779, 0780, 0781, 0782, 0783, 0784, 0785, 0786, 0787, 0788, 0789, 0790, 0791, 0792, 0793, 0794, 0795, 0796, 0797, 0798, 0799, 0800, 0801, 0802, 0803, 0804, 0805, 0806, 0807, 0808, 0809, 0810, 0811, 0812, 0813, 0814, 0815, 0816, 0817, 0818, 0819, 0820, 0821, 0822, 0823, 0824, 0825, 0826, 0827, 0828, 0829, 0830, 0831, 0832, 0833, 0834, 0835, 0836, 0837, 0838, 0839, 0840, 0841, 0842, 0843, 0844, 0845, 0846, 0847, 0848, 0849, 0850, 0851, 0852, 0853, 0854, 0855, 0856, 0857, 0858, 0859, 0860, 0861, 0862, 0863, 0864, 0865, 0866, 0867, 0868, 0869, 0870, 0871, 0872, 0873, 0874, 0875, 0876, 0877, 0878, 0879, 0880, 0881, 0882, 0883, 0884, 0885, 0886, 0887, 0888, 0889, 0890, 0891, 0892, 0893, 0894, 0895, 0896, 0897, 0898, 0899, 0900, 0901, 0902, 0903, 0904, 0905, 0906, 0907, 0908, 0909, 0910, 0911, 0912, 0913, 0914, 0915, 0916, 0917, 0918, 0919, 0920, 0921, 0922, 0923, 0924, 0925, 0926, 0927, 0928, 0929, 0930, 0931, 0932, 0933, 0934, 0935, 0936, 0937, 0938, 0939, 0940, 0941, 0942, 0943, 0944, 0945, 0946, 0947, 0948, 0949, 0950, 0951, 0952, 0953, 0954, 0955, 0956, 0957, 0958, 0959, 0960, 0961, 0962, 0963, 0964, 0965, 0966, 0967, 0968, 0969, 0970, 0971, 0972, 0973, 0974, 0975, 0976, 0977, 0978, 0979, 0980, 0981, 0982, 0983, 0984, 0985, 0986, 0987, 0988, 0989, 0990, 0991, 0992, 0993, 0994, 0995, 0996, 0997, 0998, 0999, 1000.</p> <p>Large and robust explosives intended for military use, with their means of initiation or with their means of initiation containing at least two effective components may be carried unpackaged in drums if the drums have propelling charges.</p>	Not necessary	Not necessary	<p>Boxes.</p> <p>steel (4A).</p> <p>aluminium (4B).</p> <p>wood natural, ordinary (4C1).</p> <p>natural wood, sift proof walls (4C2).</p> <p>plywood (4D).</p> <p>reconstituted wood (4F).</p> <p>fibreboard (4G).</p> <p>plastics, expanded (4H1).</p> <p>plastics, solid (4H2).</p> <p>Drums.</p> <p>steel, removable head (1A2).</p> <p>aluminium, removable head (1B2).</p> <p>Plywood (1D).</p> <p>fibre (1G).</p> <p>plastics, removable head (1H2).</p>



**UN 0012 requires no inner packagings. No “Particular Packing Requirements” apply.**

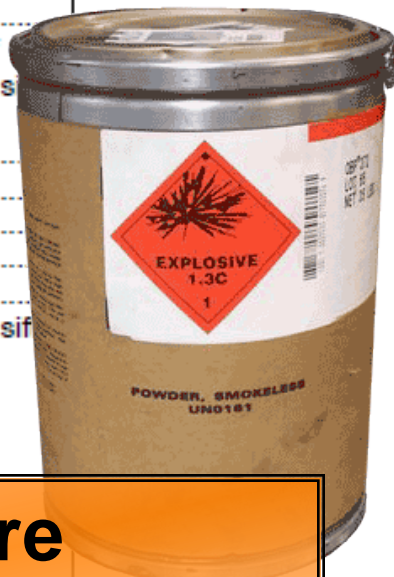
# PACKING INSTRUCTIONS

Pipeline and Hazardous Materials Safety Admin., DOT

§ 173.62

TABLE OF PACKING METHODS—Continued

Packing instruction	Inner packagings	Intermediate packagings	Outer packagings
<p>114(b) This packing instruction applies to dry solids ....  <b>PARTICULAR PACKING REQUIREMENTS OR EX-            CEPTIONS:</b>            1. For UN 0077, 0132, 0234, 0235 and 0236,            packages must be lead free.            2. For UN 0160 and UN 0161, when metal drums            (1A2 or 1B2) are used as the outer packaging,            metal packagings must be so constructed that            the risk of explosion, by reason of increased in-            ternal pressure from internal or external causes            is prevented            3. For UN 0160 and UN 0161, inner packagings            are not required if drums are used as the outer            packaging</p>	<p>Bags .....</p> <p>paper, kraft .....</p> <p>plastics .....</p> <p>textile, sift-proof .....</p> <p>woven plastics, s .....</p> <p>proof.</p> <p>Receptacles .....</p> <p>fibreboard .....</p> <p>metal .....</p> <p>paper .....</p> <p>plastics .....</p> <p>woven plastics, sif .....</p> <p>proof.</p>	<p>Not necessary .....</p>	<p>Boxes.</p> <p>natural wood, ordi-            nary (4C1).</p> <p>natural wood, sift            proof walls (4C2)</p> <p>plywood (4D).</p> <p>reconstituted wood            (4F).</p> <p>fibreboard (4G).</p> <p>Drums.</p> <p>steel, removable            head (1A2).</p> <p>aluminium, remov-            able head (1B2)</p> <p>plywood (1D).</p> <p>fibre (1G).</p> <p>plastics, removable            head (1H2)</p>

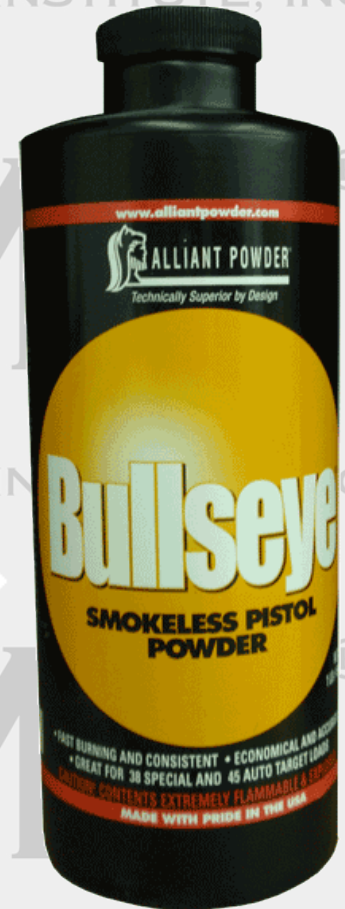


**Various inners & outers are allowed. UN 0161 may skip inner packaging when in a drum.**

# FLAMMABLE SOLID POWDER

- 49 CFR 173.171:
- In the US, 1.3C smokeless powder may be re-classed to 4.1 when:
  - \* Burn tested to 4.1 criteria
  - \* 8 lb net max inner
  - \* 100 lb net max shipment
  - \* 16 lb net max mixed brands

- Used for economic shipment of smaller



# PACKING INSTRUCTIONS

§ 173.62

49 CFR Ch. I (10-1-07 Edition)

TABLE OF PACKING METHODS—Continued

Packing instruction	Inner packagings	Intermediate packagings	Outer packagings
<p>133 .....                      PARTICULAR PACKING REQUIREMENTS OR EX-                      CEPTIONS:                      1. For UN 0043, 0212, 0225, 0268 and 0306                      trays are not authorized as inner packagings</p> 	<p>Receptacles .....                      Intermediate pack-                      agings are only re-                      quired when trays                      are used as inner                      packagings.                      fibreboard .....                      metal .....                      plastics .....                      wood .....                      Trays, fitted with di-                      viding                      partitions .....                      fibreboard .....                      plastics .....                      wood .....</p>	<p>Receptacles .....                      fibreboard .....                      metal .....                      plastics .....                      wood .....</p>	<p>Boxes.                      steel (4A).                      aluminium (4B).                      wood, natural, ordi-                      nary (4C1).                      wood, natural, sift                      proof walls (4C2).                      plywood (4D).                      reconstituted wood                      (4F).                      fibreboard (4G).                      plastics, solid                      (4H2).</p>

**UN 0044 & UN 0378 use PI**


**133**

# PACKING INSTRUCTIONS

Pipeline and Hazardous Materials Safety Admin., DOT

§ 173.62

TABLE OF PACKING METHODS—Continued

Packing instruction	Inner packagings	Intermediate packagings	Outer packagings
136 ..... 	Bags ..... plastics ..... textile ..... Boxes. .... fibreboard ..... plastics ..... wood ..... Dividing partitions in the outer packagings .....	Not necessary .....	Boxes. steel (4A). aluminium (4B) wood, natural, ordi- nary (4C1). wood, natural, sift proof walls (4C2). plywood (4D). reconstituted wood (4F). fibreboard (4G). plastics, solid (4H2). Drums. steel, removable head (1A2). aluminium, remov- able head (1B2). Plywood (1D). fibre (1G). plastics, removable head (1H2).

**UN 0055 uses PI**

**136**

# Special Provision Example

Sec. 172.101 Hazardous Materials Table

Symbols	Hazardous materials description and proper shipping names	Hazard class or division	Identification Numbers	PG	Label Codes	Special provisions	(8) Packaging	(9) Quantity limitations	(10) Vessel
(1)	(2)	(3)	(4)	(5)	(6)	(7)			
	Cartridges for weapons, blank or Cartridges, small arms, blank	1.4S	UN0014	II	None				
	Cartridges for weapons, inert projectile or Cartridges, small arms	1.4S	UN0012	II	None				
D	Cartridges, small arms	ORM-D		-	None	-			
D	Cartridges, power device (used to project fastening devices)	ORM-D		-	None	-			
	Cases, cartridge, empty with primer	1.4S	UN0055	II	1.4S	50			
	Powder, smokeless	1.3C	UN0161	II	1.3C	-			
	Primers, cap type	1.4S	UN0044	II	None	-			
	Primers, cap type	1.4B	UN0378	II	1.4B	-			
D	Smokeless powder for small arms	4.1	NA3178	II	4.1	16			



## Pipeline and Hazardous Materials Safety Administration

may be transported under this entry without first applying the classification criteria of Class 8, provided there is no free liquid visible at the time the material is loaded or at the time the packaging or transport unit is closed. Each packaging must correspond to a design type that has passed a leakproofness test at the Packing Group II level.

50 Cases, cartridge, empty with primer which are made of metallic or plastic casings and meeting the classification criteria of Division 1.4 are not regulated for domestic transportation.

51 This description applies to items previously described as "Toy propellant devices, Class C" and includes reloadable kits. Model rocket motors containing 30 grams or less propellant are classed as Division 1.4S and items containing more than 30 grams of propellant but not more than 62.5 grams of propellant are classed as Division 1.4C.

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# APPROVED PACKAGING

**U.N. PROPER SHIPPING NAME AND NUMBER:**

Primers, cap type, UN0044

**U.N. CLASSIFICATION CODE:** 1.4S

**REFERENCE NUMBER**

EX2007020114

**PRODUCT DESIGNATION/PART NUMBER**

Wolf B and C (S&W Primers) (2/N KV 209)

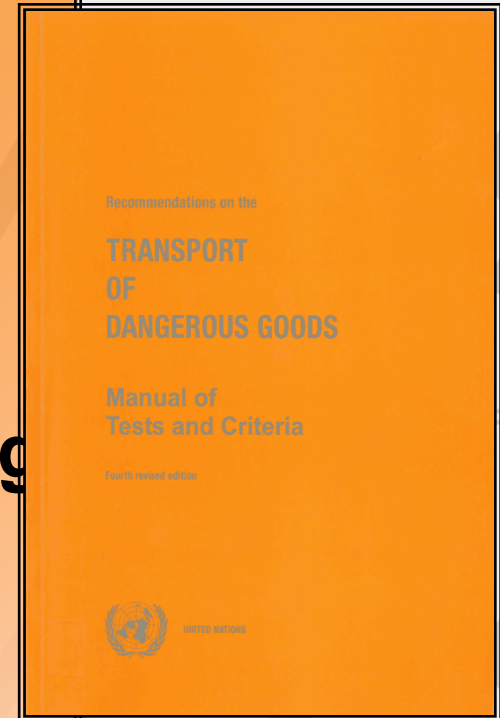
- Pick A Packaging, But Then You're Locked In
- N/A For Self-Classified Ammo

**NOTES:**

This classification is only valid when the primers are packaged as follows: Inner Packaging - Trays, plastic with recessed cavities, each containing not more than one hundred (100) primers uniformly segregated apart in up to a 10x10 array covered with slip-over cardboard or paperboard sleeve enclosures. Intermediate Packaging - Box, cardboard or paperboard, each containing not more than ten (10) inner packagings in up to five (5) layers. Outer Packaging - UN 4G fiberboard box, each containing not more than five (5) intermediate packagings.

# UN MANUAL OF TESTS & CRITERIA

- Presents the UN classification schemes and test methods for competent authorities
- Will not unerringly lead to proper classification
- Assumes competence of the testing authority and leaves them responsibility for classification.
- The competent authority has discretion to add, delete or vary tests for a reliable and realistic





# TEST SERIES 4



**Test Series 4: "Is the article, packaged article or packaged substance too dangerous for transport?"**

- Type 4 (a): a test of thermal stability for articles; and**
- Type 4 (b): a test to determine the ignition hazard from dropping.**

**FAILURE = FORBIDDEN**

# TEST 6(a)

**A Test On A Single Package To Determine If There Is Mass Explosion Of The Contents.**

**Mass explosion indicates Division 1.1:**

- (a) A crater at the test site;**
- (b) Damage to the witness plate beneath the package;**
- (c) Measurement of a blast; and**
- (d) Disruption and scattering of the confining material.**

# TEST 6(a) UN 0044



# TEST 6(a) UN 0044





# TEST 6(c)



# TEST 6(c)

SPORTING	6(c)										
	Mass Explosion	Witness Screen		Metal Projectile		Flame Ball or Jet		Fiery projection		Burn Time	
		Perforation	Dent >4mm	>20J	8J > x >=20J	Beyond witness (4m)	1m > x >= 4m	>15m	5m < x <=15 m	<35s/100 kg NEQ	<330s/100 kg NEQ
1.1	X										
1.2		X		X							
1.3						X		X		X	
1.4 (other than S)			X		X		X		X	X	
1.4S	Otherwise 1.4S if it would not significantly hinder fire-fighting or other emergency response efforts in the immediate vicinity.										

# APPROVED PACKAGING

## U.N. PROPER SHIPPING NAME AND NUMBER:

Primers, cap type, UN0044

U.N. CLASSIFICATION CODE: 1.4S

## REFERENCE NUMBER

EX2007020114

## PRODUCT DESIGNATION/PART NUMBER

Wolf B and C S&W Primers (2/N KV 209)

- Pick A Packaging, But Then You're Locked In
- N/A For Self-Classified Ammo

## NOTES:

This classification is only valid when the primers are packaged as follows: Inner Packaging - Trays, plastic with recessed cavities, each containing not more than one hundred (100) primers uniformly segregated apart in up to a 10x10 array covered with slip-over cardboard or paperboard sleeve enclosures. Intermediate Packaging - Box, cardboard or paperboard, each containing not more than ten (10) inner packagings in up to five (5) layers. Outer Packaging - UN 4G fiberboard box, each containing not more than five (5) intermediate packagings.



# CERTIFICATION TESTING

## DROP TEST

X = 5.9'

Y = 3.9'

Z = 2.6'

**X = PG I, II, or III**  
**Y = PG II or III**  
**Z = PG III ONLY**

## VIBRATION TEST



## STACK TEST



# MARKINGS

## PSN, UN#, ORM-D, 1.4S

- Proper Shipping Name & ID Number / ORM-D (Which Certifies The Package is ORM-D)
- “ORM-D-Air” for Air
- ORM-D Rectangle 0.25” Larger Each Side Than Text (172.316)
- International Vessel: “1.4S” is Required in Lieu of a Label



# EX# MARKINGS

- “Explosive Number” (Not “Exemption”)
- File # Of The DOT
- Required Marking On Package
- Alternatively On Shipping Paper
- Or May Be Replaced With Alternative Code If It Appears On DOT Approval
- Not applicable for US cartridges, small arms  $\leq$  50 cal / 8 gauge



# EX# MARKINGS

**U.N. PROPER SHIPPING NAME AND NUMBER:**

Primers, cap type, UN0044

**U.N. CLASSIFICATION CODE:** 1.4S

**REFERENCE NUMBER**

EX2007020114

**PRODUCT DESIGNATION/PART NUMBER**

Wolf Brand Shot Shell Primers (D/N KV 209)

**EX# AND ALTERNATIVE CODE**

**NOTES:**

This classification is only valid when the primers are packaged as follows: Inner Packaging - Trays, plastic with recessed cavities, each containing not more than one hundred (100) primers uniformly segregated apart in up to a 10x10 array covered with slip-over cardboard or paperboard sleeve enclosures. Intermediate Packaging - Box, cardboard or paperboard, each containing not more than ten (10) inner packagings in up to five (5) layers. Outer Packaging - UN 4G fiberboard box, each containing not more than five (5) intermediate packagings.

# LABELING

## 49 CFR 172 Subpart F

- 1.4S ammo and primers don't require a label
- ORM-D ammo has no label

- 1.4B I
- Appr



Sec. 172.101 Hazardous Materials Table

Symbols	Hazardous materials description and proper shipping names	Hazard class or division	Identification Numbers	PG	Label Codes	Special provisions	Package Exemptions
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)
	Cartridges for weapons, blank or <b>Cartridges, small arms, blank</b>	1.4S	UN0014	I	<b>None</b>	-	63
	Cartridges for weapons, inert projectile or <b>Cartridges, small arms</b>	1.4S	UN0012	I	<b>None</b>	-	63
D	<b>Cartridges, small arms</b>	ORM-D		-	<b>None</b>	-	63
D	<b>Cartridges, power device</b> ( <i>used to project fastening devices</i> )	ORM-D		-	<b>None</b>	-	63
	Cases, cartridge, empty with primer	1.4S	UN0055	II	1.4S	50	None
	Pow der, smokeless	1.3C	UN0161	II	1.3C	-	None
	<b>Primers, cap type</b>	1.4S	UN0044	I	<b>None</b>	-	None
	Primers, cap type	1.4B	UN0378	I	1.4B	-	None
D	Smokeless powder for small arms	4.1	NA3178	II	4.1	16	None

# PLACARDING EXCEPTIONS

- **No Placards For 1.4 Below 1,001 Pounds (E.G.1.4B)  
49 CFR 172.504(c)**
- **No Placards For 1.4S That Don't Require A Label  
49 CFR 172.504(f)**
- **No Placards For ORM-D**
- **No Placards For LQ Identified On**



# CDL HAZMAT ENDORSEMENT

- FMCSA defines Hazmat as only placarded hazmat
- No requirement for CDL hazmat endorsement for unplacarded loads
- CDL required based on truck size – 26,000 pound Gross Vehicle Weight Rating

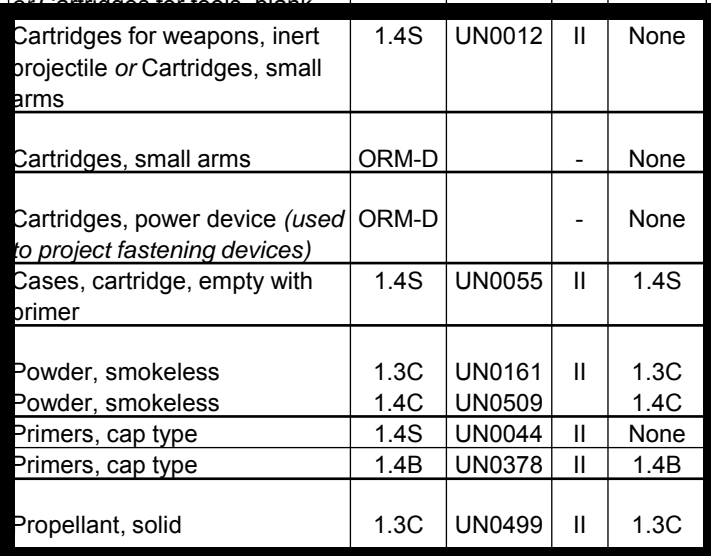
**(GVWR)**



# HMT Basic Description

Sec. 172.101 Hazardous Materials Table

Sym bols	Hazardous materials description and proper shipping names	Hazard class or division	Identifi- cation Num- bers	PG	Label Codes	Special provi- sions	(8) Packaging (\$173.***)			(9) Quantity limitations		(10) Vessel stowage	
							Excep- - tions (8A)	Non- bulk (8B)	Bulk (8C)	Passenger aircraft/rail (9A)	Cargo air- craft only (9B)	Loca- tion (10A)	Other (10B)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
	Cartridges for weapons, blank or Cartridges, small arms, blank	1.4S	UN0014	II	None	-	63	62	None	25 kg	100 kg	01	25
	Cartridges for weapons, inert projectile or Cartridges, small arms	1.4S	UN0012	II	None	-	63	62	None	25 kg	100 kg	01	25
D	Cartridges, small arms	ORM-D		-	None	222	63	None	None	30 kg gross		A	-
D	Cartridges, power device (used to project fastening devices)	ORM-D		-	None	222	63	None	None	30 kg gross	-	A	-
	Cases, cartridge, empty with primer	1.4S	UN0055	II	1.4S	50	63	62	None	25 kg	100 kg	01	25
	Powder, smokeless	1.3C	UN0161	II	1.3C	-	None	62	None	Forbidden	Forbidden	04	25, 26E
	Powder, smokeless	1.4C	UN0509		1.4C	-	None	62	None	Forbidden	75 kg	02	25
	Primers, cap type	1.4S	UN0044	II	None	-	None	62	None	25 kg	100 kg	01	25
	Primers, cap type	1.4B	UN0378	II	1.4B	-	None	62	None	Forbidden	75 kg	05	25
	Propellant, solid	1.3C	UN0499	II	1.3C	-	None	62	None	Forbidden	Forbidden	04	25, 26E
	Propellant, solid	1.4C	UN0501		1.4C	-	None	62	None	Forbidden	Forbidden	02	25, 24E



"Basic Description"

SHIPPING PAPER



# HM ELEMENTS

CARRIER INFORMATION									
HANDLING UNIT		PACKAGE		WEIGHT (In lbs)	H. M. (X)	COMMODITY DESCRIPTION <small>Commodities requiring special or additional care or attention or stowing must be so marked and packaged as to insure safe transportation with ordinary care. (See section 2(c) of NMFC item)</small>	LTL ONLY		
QTY	TYPE	PCS	TYPE				NMFC	CLASS	
3	PLT	3	CASES	24	X	UN0044, PRIMERS, CAP TYPE, 1.4S, PGI	64300.02	85	
		338	CASES	7,732		CARTRIDGES, SMALL ARMS, ORM-D	64300.02	85	

Qty & Type	HM	"Basic Description"	NEQ
------------	----	---------------------	-----

( 3 ) Pallets @ 60# each	7756 (Net Wt)	
3	180	
3	7,936 (Gross Wt) GRAND TOTAL	NET EXPLOSIVE WT 1 lbs

Where the rate is dependent on value, shippers are required to state specifically in writing

Shipper's Cert	FOR HELP IN EMERGENCIES CALL: CHEMTREC, TOLL FREE DAY OR NIGHT 1-800-424-9300
----------------	---

NOTE: Liability limitation for loss or damage in this shipment may be applicable. See 49 U.S.C. ~ 14706(c)(1)(A) and (B).

RECEIVED, subject to individually determined rates or contracts that have been agreed upon in writing between carrier and shipper, if applicable, otherwise to the rates, classifications and rules that have been established by the carrier and are available to the shipper, on request, and to all applicable state and federal regulations.

SHIPPER'S SIGNATURE / DATE  
This is to certify that the above named materials are properly classified, packaged, marked, and labeled, and are in proper condition for transportation according to the applicable regulations of the DOT.

Trailer Loaded: Freight Counted:

<input type="checkbox"/> By Shipper	<input type="checkbox"/> By Shipper
<input type="checkbox"/> By Driver	<input type="checkbox"/> By Driver/pallets
	<input type="checkbox"/> By Driver/Pieces

Carrier acknowledges receipt of packages and required placards.  
Carrier certifies emergency response information was made available and/or carrier has the DOT emergency response guidebook or equivalent documentation in the vehicle.  
Property described above is received in good order, except as noted.  
X

# SHIPPING DESCRIPTION

CARRIER INFORMATION						
PACKAGE		WEIGHT (In lbs)	H. M (X)	COMMODITY DESCRIPTION <small>Commodities requiring special or additional care or attention or stowing must be so marked and packaged as to insure safe transportation with ordinary care. (See section 2(e) of NMFC item)</small>	LTL ONLY	
PCS	TYPE				NMFC	CLASS
3	CASES	24	X	UN0044, PRIMERS, CAP TYPE, 1.4S, PGI	64300.02	85
338	CASES	7,732		CARTRIDGES, SMALL ARMS, ORM-D	64300.02	85

HM

"Basic Description"

**The Shipping Description Must Be:**

- Entered first, or
- Printed or highlighted in contrasting color, or
- Marked with an X in a

**Column marked "HM"**

# ADDITIONAL DESCRIPTION

CARRIER INFORMATION							
PACKAGE		WEIGHT (In lbs)	H. M. (X)	COMMODITY DESCRIPTION <small>Commodities requiring special or additional care or attention or stowing must be so marked and packaged as to insure safe transportation with ordinary care. (See section 2(e) of NMFC item)</small>	LTL ONLY		
PCS	TYPE				NMFC	CLASS	
3	CASES	24	X	UN0044, PRIMERS, CAP TYPE, 1.4S, PGII	64300.02	85	
338	CASES	7,732		CARTRIDGES, SMALL ARMS, ORM-D	64300.02	85	

"Additional Description"

- **Special Permit Number DOT-SP XXXX**
- **"Limited Quantity" If Applicable**
- **Empty Packagings: "RESIDUE: Last Contain"**

**EX# UN 0012, Cartridges, small arms, 1.4S, PG II, LTD QTY,**

# PACKAGE QUANTITY & TYPE

CARRIER INFORMATION									
HANDLING UNIT		PACKAGE		WEIGHT (In lbs)	H. M. (X)	COMMODITY DESCRIPTION <small>Commodities requiring special or additional care or attention or stowing must be so marked and packaged as to insure safe transportation with ordinary care. (See section 2(e) of NMFC item)</small>	LTL ONLY		
QTY	TYPE	PCS	TYPE				NMFC	CLASS	
		3	CASES	24	X	UN0044, PRIMERS, CAP TYPE, 1.4S, PGI CARTRIDGES, SMALL ARMS, ORM-D	64300.02	85	
3	PLT	338	CASES	7,732			64300.02	85	
				7756 (Net Wt)					
( 3 ) Pallets @ 60# each				180					
3		341		7,936 (Gross Wt)		<b>NET EXPLOSIVE WT</b>	1 lbs		
						<b>GRAND TOTAL</b>			

Qty & Type

NEQ

- Weight & Unit of Measurement
- For Class 1, Use The Net Explosive Mass; For Articles This Means The NEQ OR The Net Weight
- For Salvage Packagings, Estimate Total Quantity
- By Aircraft: Total Net Mass Is Required (Unless HM Table Is Gross Limit)
- Qty & Type, e.g. "12 Boxes" or "12 4G Boxes", Not "12 4G"

# LIMITED QUANTITIES

CARRIER INFORMATION						
PACKAGE		WEIGHT (In lbs)	H. M. (X)	COMMODITY DESCRIPTION <small>Commodities requiring special or additional care or attention or stowing must be so marked and packaged as to insure safe transportation with ordinary care. (See section 2(e) of NMFC item)</small>	LTL ONLY	
PCS	TYPE				NMFC	CLASS
3	CASES	24	X	UN0044, PRIMERS, CAP TYPE, 1.4S, PGII	64300.02	85
338	CASES	7,732		UN 0012, Cartridges, small arms, 1.4S, PG II, Ltd Qty		
				Or, when not required: Cartridges, small arms		

- For air or vessel, the description of a “limited quantity,” must include the words “Limited Quantity” or “Ltd Qty” following the basic description.
- LQ exempted from shipping paper for ground shipments

# ATTENDANCE REQUIRED

A motor vehicle which contains a Division 1.1, 1.2, or 1.3 (explosive) material must be attended at all times by its driver or a qualified representative of the motor carrier with some exceptions.



**IMPACT: 2 DRIVERS REQUIRED  
OUTSIDE 10 HOUR SHIFT RADIUS**

# HIGHWAY ROUTE PLAN

- **1.1, 1.2 And 1.3 Explosives Require A Written Route Plan**
- **The Route Plan Should Be Kept With The Shipping Paper**

## **ROUTING INSTRUCTIONS**

### **OUTBOUND**

**From the magazine entrance gate, Turn Left (South) on County Road 100, go 11 miles.**

**Turn Left (North) on State Highway 66, go 22 miles.**

**Take the Exit 66 off ramp and take Turn Left (West) on County Road 222, go 3 miles.**

**Turn Right at the main entrance gate to John A. Doe's facility.**

### **RETURN**

**From John A. Doe's main entrance gate, Turn Left on County Road 22, go 3 miles**

**Turn South (Right) on to State Highway 66, go 22 miles.**

**Take Exit 44 off ramp, Turn Right (North) on County Road 100, go 11 miles.**

**Arrive at the magazine entrance gate on Left.**

**Prepared by:**

**Mike Fink**

**Date: January 1, 2008**

**Location Manager:**

**Mark American**

**Date: January 1, 2008**

# HM SAFETY PERMITS

## 49 CFR 107 Subpart G



U.S. Department  
of Transportation  
Federal Motor  
Carrier Safety  
Administration

### SAMPLE FOR TRAINING PURPOSES

1200 New Jersey Ave., S.E.  
Washington, DC 20590  
September 13, 2007  
In reply refer to:  
USDOT Number: 352987  
MC Number: MC467832

SUSAN SMITH  
PRESIDENT  
ABC COMPANY  
457 APPLE ROAD  
KANSAS CITY, MO 73982

HAZARDOUS MATERIALS SAFETY PERMIT  
HM Safety Permit ID: 379832-MO-HMSP  
Effective Date: September 13, 2007

Dear SUSAN SMITH:

The Hazardous Materials Safety Permit (HMSP) is verification of the motor carrier's permission to engage in the transportation of hazardous materials listed in 49 CFR 385.403 by motor vehicle in interstate, intrastate, or foreign commerce.

This HMSP will be **effective beginning September 13, 2007 and remain effective through September 30, 2009** if your company maintains compliance with the requirements pertaining to the safe and secure movement of hazardous materials for the protection of the public (49 CFR 385 and other applicable Federal Motor Carrier Safety Regulations and Hazardous Material Regulations). Failure to maintain compliance will constitute sufficient grounds for suspension or revocation of this authority.

Willful and persistent noncompliance with applicable safety fitness regulations as evidenced by a Department of Transportation safety fitness rating less than "Satisfactory" or by other indicators, could result in a proceeding requiring the holder of this permit to show cause as to why this authority should not be suspended or revoked.

For questions regarding this document you may contact the FMCSA Hazardous Materials Division at 202-366-6121.

Sincerely,

William A. Quade  
Director, Office of Enforcement and Compliance

- The Federal Motor Carrier Safety Administration Requires A HM Safety Permit To Transport Hazardous Materials
- A Shipment Over 55 Pounds Of 1.1, 1.2 Or 1.3; Or Placarded 1.5 Requires A Permit
- Every Truck Must Have:
  - A Copy Or The Permit #
  - Route Plan (1.1 – 1.3 Explosives)
  - Phone # Of Employee Who Can Verify The Route Plan

**FEW CARRIERS HAVE THIS**



# \$5 MILLION INSURANCE



## INSURANCE

- \$750,000 Non-Hazmat Commerce
- \$1 Million Hazmat Commerce
- \$5 Million 1.3C Commerce

## PROHIBITIVE COST

## FEW CARRIERS HAVE

# 1.4C PROPELLANT BENEFITS



- Use Regular Common Carriers
- Because
  - No Dual Drivers
  - No Route Plan
  - No Haz Mat Safety Permit
  - No Prohibitive Insurance
- No 100# Limit That Applies To Flammable Solid
- Up To 1000 Lbs Without Placard

# ROAD SEGREGATION

Class or division	Notes	1.1 1.2	1.3	1.4	1.5	1.6	2.1	2.2	2.3 gas zone A	2.3 gas Zone B	3	4.1	4.2	4.3	5.1	5.2	6.1 liq- uids PG I zone A	7	8 liquids only	
Explosives .....	1.1 and 1.2	A	*	*	*	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Explosives .....	1.3		*	*	*	*	X		X	X	X		X	X	X	X	X			X
Explosives .....	1.4		*	*	*	*	O		O	O	O		O				O			O
Very insensitive explo- sives.	1.5	A	*	*	*	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Extremely insensitive explosives.	1.6		*	*	*	*														
Flammable gases .....	2.1		X	X	O	X			X	O							O	O		
Non-toxic, non-flam- mable gases.	2.2		X			X														
Poisonous gas Zone A	2.3		X	X	O	X	X				X	X	X	X	X	X				X
Poisonous gas Zone B	2.3		X	X	O	X	O				O	O	O	O	O	O				O
Flammable liquids .....	3		X	X	O	X			X	O					O		X			O
Flammable solids .....	4.1		X			X			X	O							X			O
Spontaneously combus- tible materials.	4.2		X	X	O	X			X	O							X			X
Dangerous when wet materials.	4.3		X	X		X			X	O							X			O
Oxidizers .....	5.1	A	X	X		X			X	O	O						X			O
Organic peroxides .....	5.2		X	X		X			X	O							X			O
Poisonous liquids PG I Zone A.	6.1		X	X	O	X	O				X	X	X	X	X	X				X
Radioactive materials ...	7		X			X	O													
Corrosive liquids .....	8		X	X	O	X			X	O		O	X	O	O	O	X			

**BLANK = ALLOWED ON SAME TRUCK**  
**O = ALLOWED WITH PRECAUTIONS**  
**X = PROHIBITED ON SAME TRUCK**

# ROAD COMPATIBILITY

C.G.	A	B	C	D	E	F	G	H	J	K	L	N	S
A		X	X	X	X	X	X	X	X	X	X	X	X
B	X		X	X <sub>(4)</sub>	X	X	X	X	X	X	X	X	4/5
C	X	X		2	2	X	6	X	X	X	X	3	4/5
D	X	X <sub>(4)</sub>	2		2	X	6	X	X	X	X	3	4/5
E	X	X	2	2		X	6	X	X	X	X	3	4/5
F	X	X	X	X	X		X	X	X	X	X	X	4/5
G	X	X	6	6	6	X		X	X	X	X	X	4/5
H	X	X	X	X	X	X	X		X	X	X	X	4/5
J	X	X	X	X	X	X	X	X		X	X	X	4/5
K	X	X	X	X	X	X	X	X	X		X	X	4/5
L	X	X	X	X	X	X	X	X	X	X		1	X
N	X	X	3	3	3	X	X	X	X	X	X		4/5
S	X	4/5	4/5	4/5	4/5	4/5	4/5	4/5	4/5	4/5	X	4/5	

**BLANK = ALLOWED ON SAME TRUCK**

**O = ALLOWED WITH PRECAUTIONS , X = PROHIBITED**

**2 = C + D = E**

**4/5 = LIMITATIONS FOR FIREWORKS & BLASTING CAPS**



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