



S A A M I[®]

SPORTING ARMS AND AMMUNITION MANUFACTURERS' INSTITUTE, INC.

SINCE 1926

2013 LOGISTICS SEMINAR

GLOBAL ADDITION OF CLASS 1 INTO LQ

SAAMI[®]

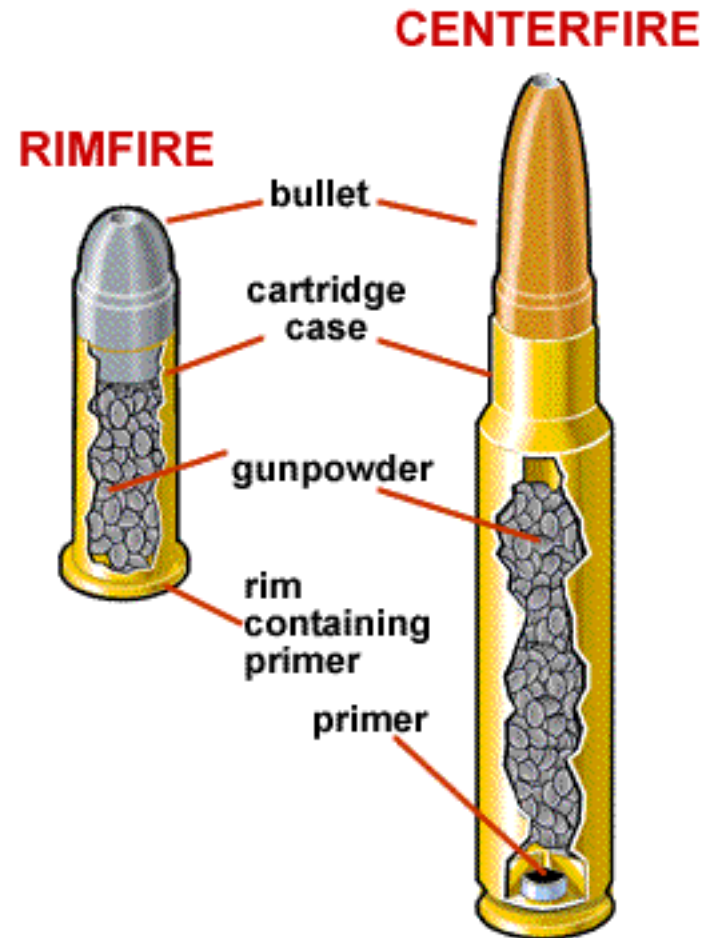
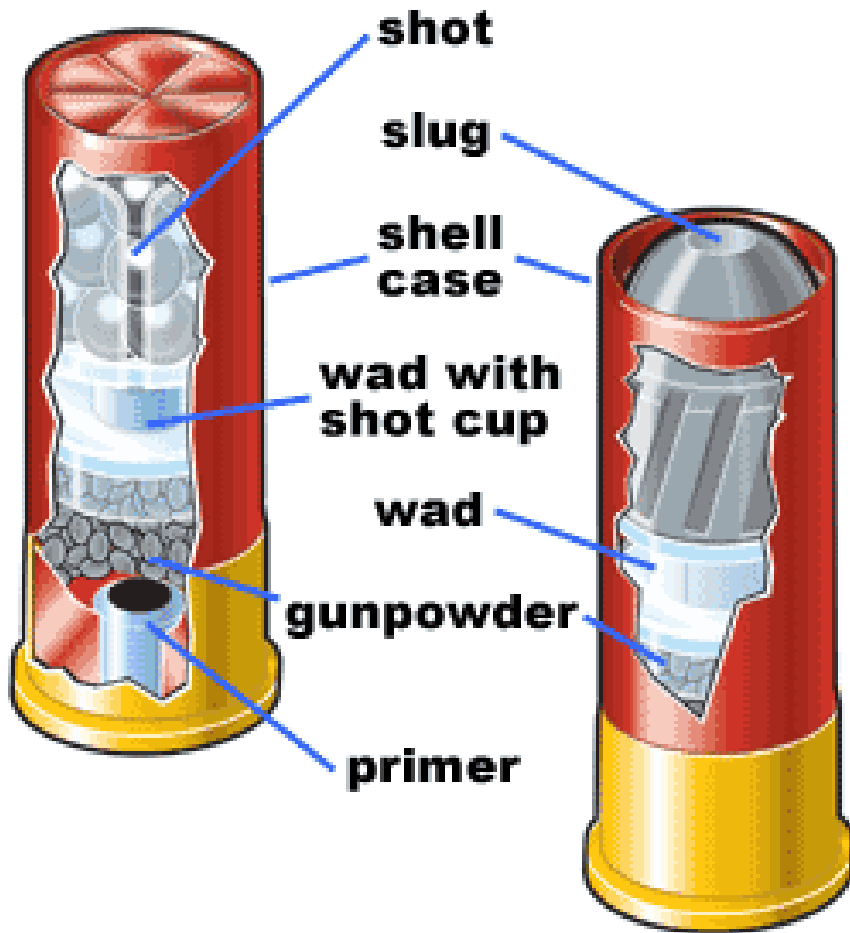
SPORTING ARMS AND AMMUNITION MANUFACTURERS' INSTITUTE, INC.

SINCE 1926

2013 LOGISTICS SEMINAR - Ammunition & Components -

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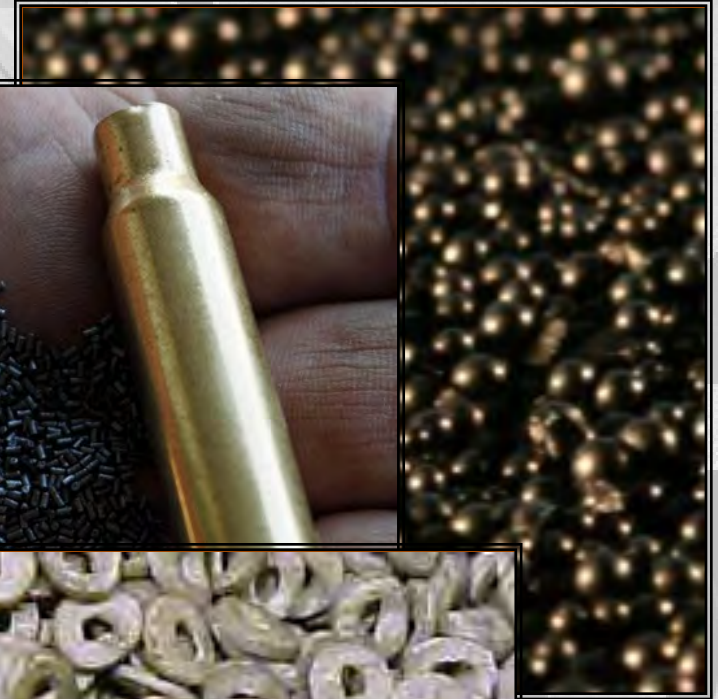
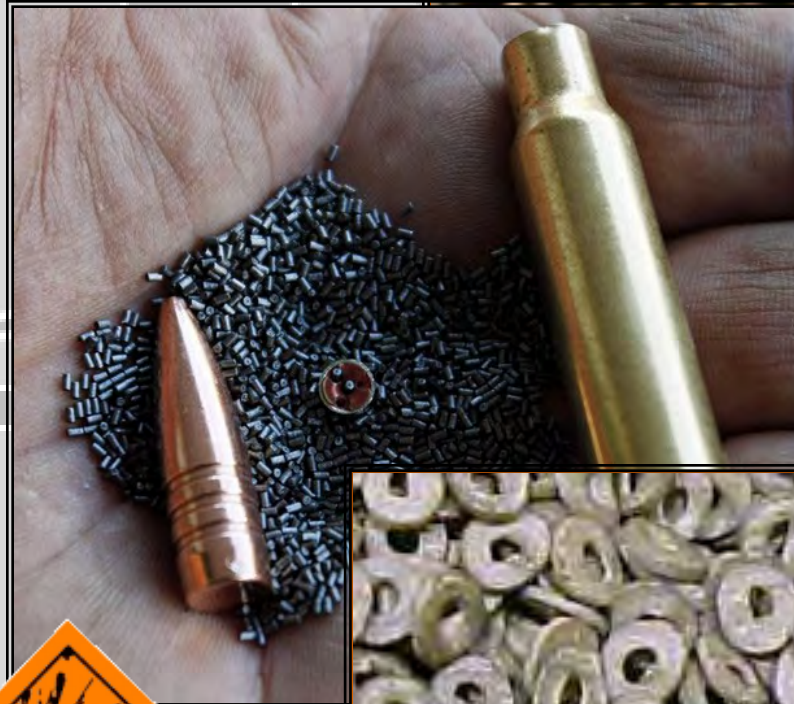
AMMUNITION COMPONENTS



SMALL ARMS PRIMERS



SMALL ARMS PROPELLANTS



HazMat Table

Basic Description

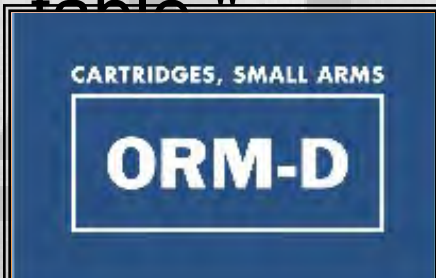
Sec. 172.101 Hazardous Materials Table

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 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 or Cartridges, small arms, blank	1.4S	UN0014	II	None	-	63	62	None	25 kg	100 kg	5	5
	Cartridges for weapons, inert projectile or Cartridges, small arms	1.4S	UN0012	II	None	-	63	62	None	25 kg	100 kg	5	5
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	-

173.144 DEFINITION

ORM-D

Other Regulated Materials, Group D -
“ORM-D material” means a material such as a consumer commodity, which, although otherwise subject to the regulations of this subchapter, presents a limited hazard during transportation due to its form, quantity and packaging. It must be a material for which exceptions are provided in the § 172.101



LQ/ORM-D

171.16 Spill Reporting

172.101 Subpart B, HM Table & Special Provisions

172.200 Subpart C, Shipping Papers (except haz sub, haz waste, marine poll., air and vessel)

172.300 Subpart D, Marking

172.400 Subpart E, Labeling

172.500 Subpart F, Placarding

172.600 Subpart G, Emergency Response Info

172.700 Subpart H, Training

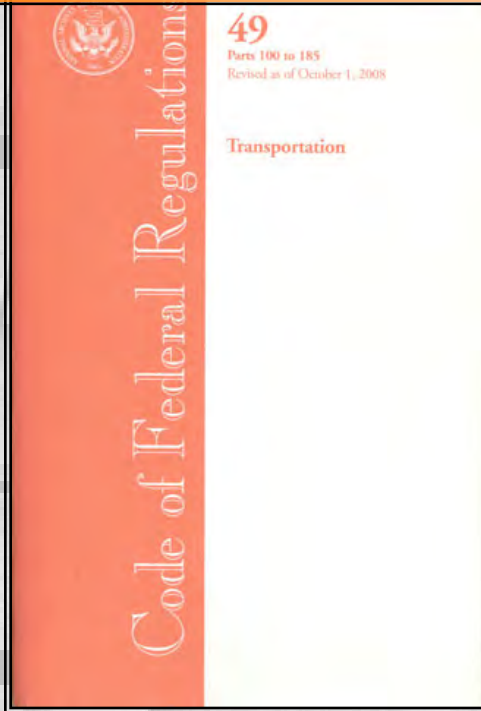
172.800 Subpart I, Security Plans

173.63 Spec Packaging Exception

175.75 Aircraft Accessibility

ORM-D Eliminates Ground Fees

**The ORM-D System
Eliminates Shipping
Paper Requirements.**



\$27.5

0

**No Shipping Paper = No
Hazmat Fee**

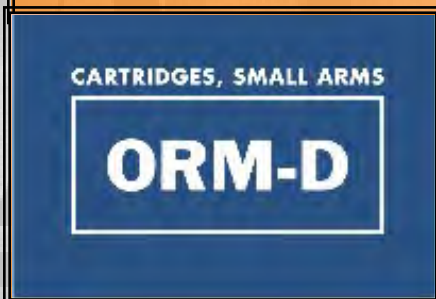
BREAKING CASES

- **Distributors Break Cases For Retailers As Their Value Added Service**
- **A Foundation Of Consumer Sales**
- **ORM-D Eliminates POP Testing And Allows Partial Case Shipping**
- **Haz and Non-Haz Mixed Together To Reduce Shipping Cost**



ORM-D PHASE OUT

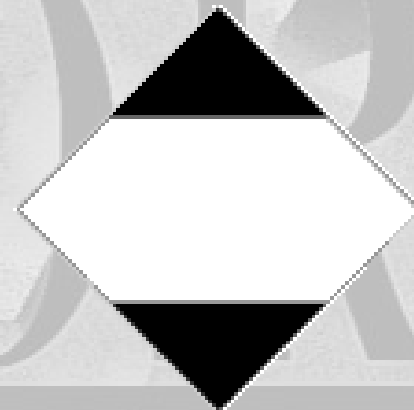
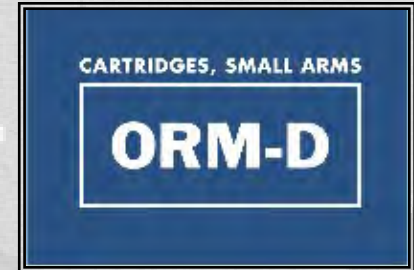
- **LQ modified to replace ORM-D**
- **ORM-D-AIR – DEC. 31, 2012**
ORM-D-AIR No Longer Exists
- **ORM-D**
ORM was originally scheduled to end on Dec 31, 2013, now Dec 31, 2020. Running concurrently with LQ since Jan 2011.



SCHEDULE



	<u>Effective Date</u>
Domestic UN0012 & 0014	January-11
Domestic UN 0055 and UN 0014 powerloads	January-13
IMDG	January-13
ICAO	N/A
ADR	January-13
ORM-D-AIR Ends	31-Dec-2012
ORM-D Ground Ends	31-Dec-2013 (extended to Dec/20)



LQ DEFINITION

“The rationale behind limited quantity provisions is that selected (*i.e. lower hazard*) dangerous goods packed in small quantities and in good, robust packaging pose a lesser risk in transport than do the same goods packed in larger volumes, and on this basis some relief from the requirements may be accepted.” – UN Guiding Principles



- No LQ shipment maximum.
- 30kg Gross Combination Pkg.



Ammo: 5kg inner max



LQ BY CLASS (16th Ed.)

Class/ Division	Packing Group	Quantity
1		Not permitted
2		Aerosols and gas cartridges containing toxic substances: 120 ml/30 kg Other aerosols and gas cartridges: 1 L/30 kg
2.1		Not permitted
2.2		Without subsidiary risk: 120 ml/30 kg With subsidiary risk: Not permitted
2.3		Not permitted
3	I	Not permitted
	II	1 L/30 kg ^b
	III	5 L/30 kg ^c
4.1	I	Not permitted

Class 1 was not permitted

SAAMI - NGO AT THE UN

United Nations

ST/SG/AC.10/C.3/2010/18



Secretariat

Distr.: General
1 April 2010

Original: English

**Committee of Experts on the Transport of Dangerous Goods
and on the Globally Harmonized System of Classification
and Labelling of Chemicals**

Sub-Committee of Experts on the Transport of Dangerous Goods

Thirty-seventh session

Geneva, 21–30 June 2010

Item 2 of the provisional agenda

Explosives and related matters

Division 1.4S limited quantities

**Transmitted by the Sporting Arms & Ammunition Manufacturers'
Institute (SAAMI)¹**

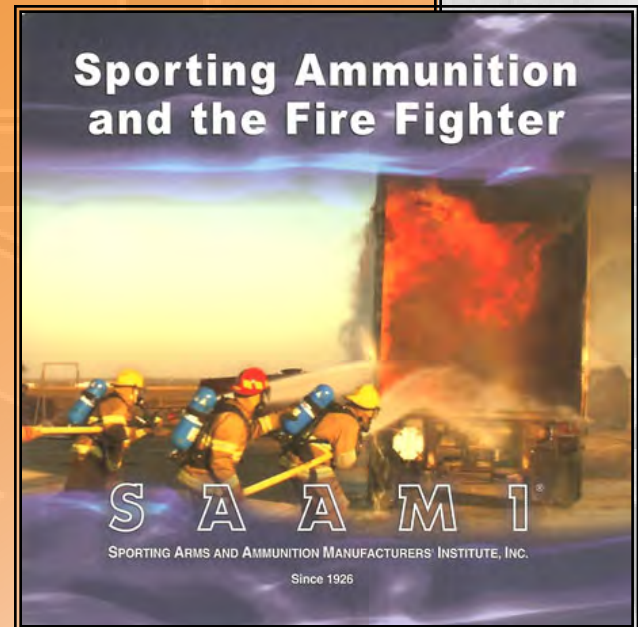
Introduction

1. At the thirty-sixth session of the Sub-Committee, discussions were held on the proposals from SAAMI (ST/SG/AC.10/C3/2009/38 and informal document INF.9) regarding the transport of UN 0012, CARTRIDGES FOR WEAPONS, INERT PROJECTILE or CARTRIDGES, SMALL ARMS, UN 0014, CARTRIDGES FOR WEAPONS, BLANK or CARTRIDGES, SMALL ARMS, BLANK or CARTRIDGES FOR TOOLS, BLANK, and UN 0055, CASES, CARTRIDGE, EMPTY, WITH PRIMER, as limited quantities.

EQUIVALENT SAFETY

Sporting Ammunition Outside A Firearm:

1. Is Unlikely To Ignite Under Extreme Conditions Of Impact
2. Will Not Propagate In A Chain Reaction Independent of Packaging
3. Will Not Be The Source Of A Fire
4. Is Slow To Ignite In A Fire
5. Does Not Mass Explode
6. May Be Controlled By Fire Fighters Using Water And Wearing Standard Structural Fire Fighter Protective Clothing And SCBA



UN CHANGES 17th EDITION

UN No.	Name and description	Class or division	Subsidiary risk	UN packing group	Special provisions	Limited and excepted quantities		Packagings and IBCs	
						(7a)	(7b)	Packing instruction	Special packing provisions
(1)	(2)	(3)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9)
-	3.1.2	2.0	2.0	2.0.1.3	3.3	3.4	3.5	4.1.4	4.1.4
0012	CARTRIDGES FOR WEAPONS, INERT PROJECTILE or CARTRIDGES, SMALL ARMS†	1.4S			364	5 kg	E0	P130	
0014	CARTRIDGES FOR WEAPONS, BLANK or CARTRIDGES, SMALL ARMS, BLANK or CARTRIDGES FOR TOOLS, BLANK†	1.4S			364	5 kg	E0	P130	
0055	CASES, CARTRIDGE, EMPTY, WITH PRIMER†	1.4S			364	5 kg	E0	P136	

UN 17th ED. CHANGES CONT'D

364 This article may only be transported under the provisions of Chapter 3.4 if, as presented for transport, the package is capable of passing the test in accordance with Test Series 6(d) of Part I of the *Manual of Tests and Criteria* as determined by the competent authority.

“Evidence of a hazardous effect outside the package includes:

(d) A projection which passes completely through the packaging (a projection or fragment retained or stuck in the wall of the packaging is considered as non hazardous).”



Not Required In US & Canada

UN 17th ED. CHANGES CONT'D

PACKAGING:

3.4.2 Dangerous goods shall be packed only in inner packagings placed in suitable outer packagings. Intermediate packagings may be used. In addition, for articles of Division 1.4, Compatibility Group S, the provisions of section 4.1.5 shall be fully complied with. The use of inner packagings is not necessary for the transport of articles such as aerosols or “receptacles, small, containing gas”. The total gross mass of the package shall not exceed 30 kg.

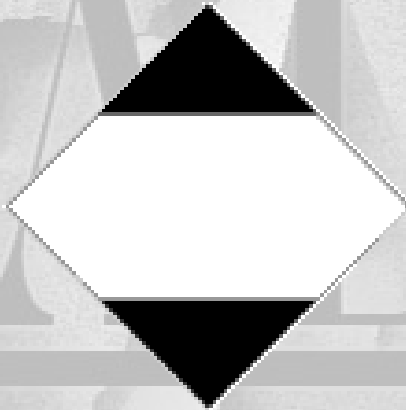
3.4.3 Except for articles of Division 1.4, Compatibility Group S, shrink-wrapped or stretch-wrapped trays meeting the conditions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8 are acceptable as outer packagings for articles or inner packagings containing dangerous goods transported in accordance with this Chapter. Inner packagings that are liable to break or be easily punctured, such as those made of glass, porcelain, stoneware or certain plastics, shall be placed in suitable intermediate packagings meeting the provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8, and be so designed that they meet the construction requirements of 6.1.4. The total gross mass of the package shall not exceed 20 kg.

Spec Packaging Not Required In US & Canada

LQ EXCEPTIONS

Common Exceptions (But May Be Permissively Used):

- Performance oriented packaging, if in strong combination packages of 30 kg max (the only exception for air)
- Marking, labeling and placarding
- Segregation
- Documentation (for ground)

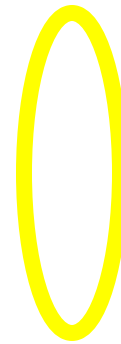


HANDLING UNIT	PACKAGE	NET WT (kg)	NET EXPLOSIVE WT (kg)	CLASS
3	PLT	1,772		89
3	Plastic	141	7939	89



US HAZMAT ENTRY CHANGES

Sec. 172.101 Hazardous Materials Table



- UN 0014: New Proper Shipping Name “Cartridges for tools, blank”
- UN 0055: Now in 173.63 LQ Exception
- ORM-D Entries Will Be Phased Out Dec 31, 2015

OLD ORM-D AMMO EXCEPTION

Pipeline and Hazardous Materials Safety Admin., DOT

§ 173.63

(b) *Cartridges, small arms, and cartridges power devices.* (1) Cartridges, small arms, and cartridges power devices (which are used to project fastening devices) which have been classed as a Division 1.4S explosive may be reclassified, offered for transportation, and transported as ORM-D material when packaged in accordance with paragraph (b)(2) of this section. For transportation by aircraft, the package must also comply with the applicable requirements of §173.27 of this subchapter. Such transportation is excepted from the requirements of subparts E (Labeling) and F (Placarding) of part 172 of this subchapter. Cartridges, small arms, and cartridges power devices that may be shipped as ORM-D material are limited to:

- (i) Ammunition for rifle, pistol or shotgun;
- (ii) Ammunition with inert projectiles or blank ammunition;
- (iii) Ammunition having no tear gas, incendiary, or detonating explosive

(iv) Ammunition not exceeding 12.7 mm (50 caliber or 0.5 inch) for rifle or pistol, cartridges or 8 gauge for shotshells; and

(v) Cartridges, power devices which are used to project fastening devices.

(2) Packaging for cartridges, small arms, and cartridges power devices as ORM-D material must be as follows:

(i) Ammunition must be packed in inside boxes, or in partitions which fit snugly in the outside packaging, or in metal clips;

(ii) Primers must be protected from accidental initiation;

(iii) Inside boxes, partitions or metal clips must be packed in securely-closed strong outside packagings;

(iv) Maximum gross weight is limited to 30 kg (66 pounds) per package; and

(v) Cartridges, power devices which are used to project fastening devices and 22 caliber rim-fire cartridges may be packaged loose in strong outside packagings.

(c)-(e) [Reserved]

(f) Detonators containing

CARTRIDGES, SMALL ARMS

ORM-D

CARTRIDGES, SMALL ARMS

ORM-D-AIR

HM 215 K&L REVISIONS

§ 173.63 Packaging Exceptions

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

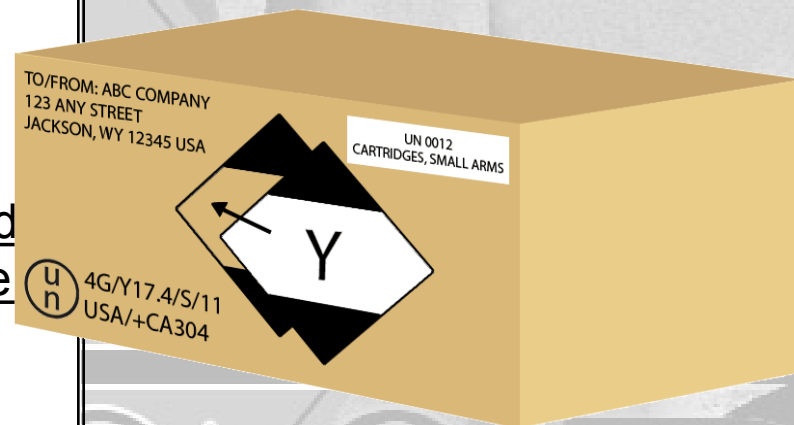
(1)(i) ~~Cartridges, small arms, and Cartridges power device (used to project fastening devices),~~ Cartridges for tools, blank, and Cases, cartridge, empty with primer that have been classed as Division 1.4S explosive may be offered for transportation and transported as limited quantities when packaged in accordance with paragraph (b)(2) of this section.



EXCEPTION REVISED 1/19/2011

§ 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



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

LQ/ORM-D REQUIREMENTS

For Ammo & Power Device Cartridges

❑ Air Must Comply With 173.27:

- Max Inner Packages:
- 5kg In Fiber, 10 KG in Metal/Plastic



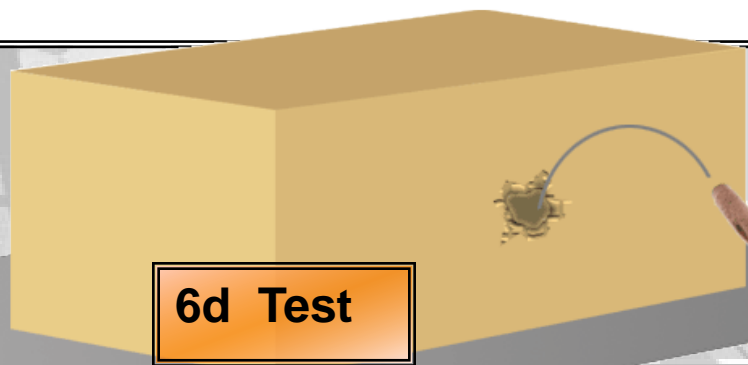
§ 173.63 Packaging Exceptions Cont'd

For transportation by aircraft, the package must conform to the applicable requirements of § 173.27 of this part.

AIR TRANSPORT

6(d) TEST ON UN 0323

~~and, effective July 1, 2011, Cartridge, power devices must be successfully tested under the UN Test Series 6(d) criteria for reclassification as limited quantity material. Effective January 1, 2012, Cartridge, power devices must be successfully tested under the UN Test Series 6(d) criteria for reclassification as limited quantity material for transportation by highway, rail or vessel. Packages containing such articles must be marked as prescribed in § 172.315.~~



6d Test

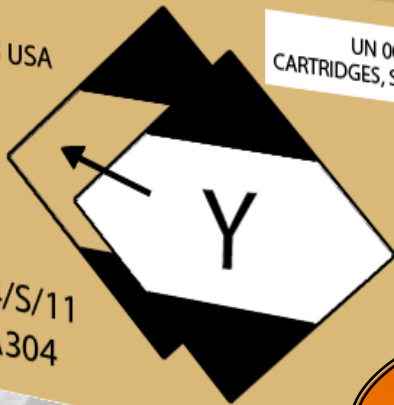


US LQ AIR TRANSPORT UN# & PSN

§ 173.63 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.

TO/FROM: ABC COMPANY
123 ANY STREET
JACKSON, WY 12345 USA

UN 0012
CARTRIDGES, SMALL ARMS



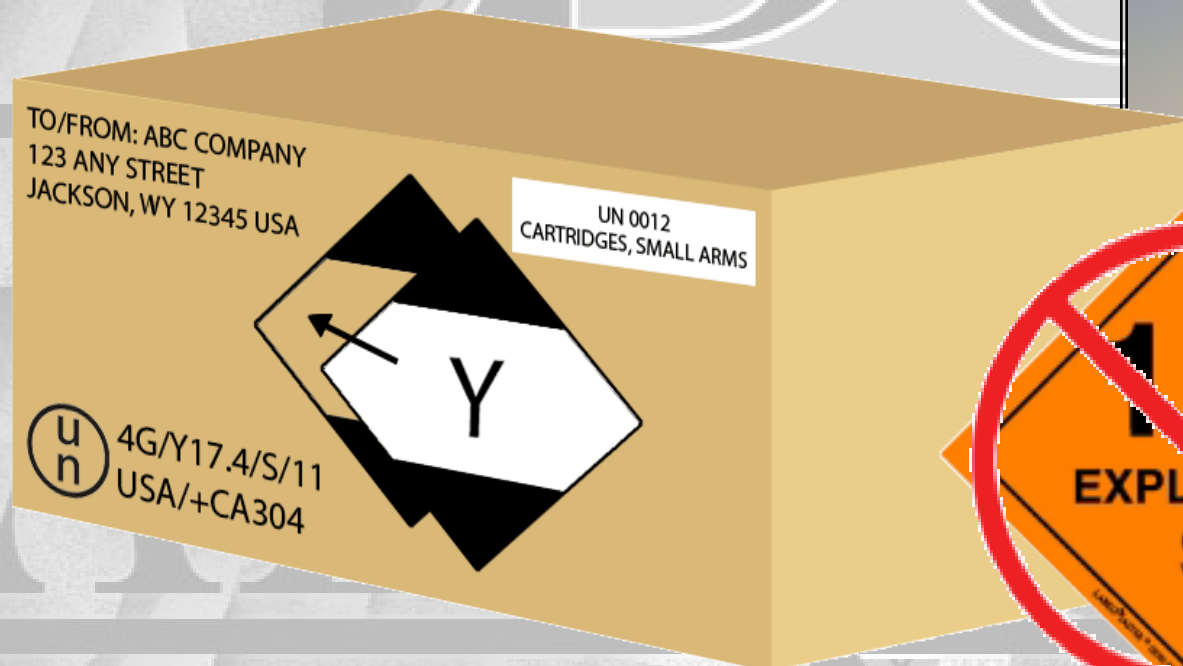
 4G/Y17.4/S/11
USA/+CA304



**UN 0012
CARTRIDGES, SMALL
ARMS**

US LQ AIR TRANSPORT NO 1.4S LABEL

- Note That, Unlike Other Hazard Classes, No Hazard Label Is Required For Air
- It Should Be Allowed



SHIPPING PAPERS

§ 173.63 Cont'd: Packages containing such articles are not subject to the shipping paper requirements of subpart C of part 172 of this subchapter unless the material meets the definition of a hazardous substance, hazardous waste, marine pollutant, or is offered for transportation and transported by aircraft or vessel.

Date: 9/4/2008 **BILL OF LADING** Page 1 of 1

Bill of Lading Number: (402) 00294650091554599

SHIP FROM
Name: FEDERAL CARTRIDGE COMPANY
Address: 900 EHLEN DRIVE
City/State/Zip: ANOKA MN 55303
SID#: FOB:

SHIP TO
Name: BUCKEYE OUTDOORS 43025
Address: 120 ARROWHEAD BLVD
City/State/Zip: HEBRON OH 43025
CID#: FOB:

THIRD PARTY CHARGES BILL TO
Name:
Address:
City/State/Zip:
SPECIAL INSTRUCTIONS: 740-928-3200
OPEN MONTHS: 8:30 - 5:00

SCAC: 485
Pro Number: STP 019

FREIGHT CHARGE TERMS (Freight charges are:)
Prepaid Collect 2nd
 MASTER BILL OF LADING With att.
(Check Box) Bills of Lading

CARRIER ORDER INFORMATION
MER ORDER NUMBER: 1
WEIGHT: 7756
PALLET / SLIP: Y N
ADDITIONAL SHIPPER: 0635207 00

GRAND TOTAL 341 7756

QTY	UNIT	PACKAGE TYPE	PCS	WEIGHT (In Lbs)	H. M. (X)	COMMODITY DESCRIPTION	CLASSIFICATION	LTL OR NMFC	SS
3	CASES		24	7,732	X	UN0014, PRIMERS, CARTRIDGES, SMALL	1.4S, PGII	643001	85
138	CASES							643001	85

(3) Pallets @ 180 (Net Wt) 7756
180 (Gross Wt) 7936
NET EXPLOR 1 lba

Where the net is dependent on volume, the gross weight must be indicated on the bill of lading. The gross or declared value of the property is the value of the property as shipped, or as declared by the shipper to be not exceeding \$1000.

NOTE: Liability Limitation for loss or damage to cargo. The carrier's liability for loss of or damage to cargo is limited to the value of the cargo as declared on the bill of lading, unless the shipper has advised the carrier of a higher value and the carrier has agreed to carry the cargo at that value. The carrier's liability for loss of or damage to cargo is limited to the value of the cargo as declared on the bill of lading, unless the shipper has advised the carrier of a higher value and the carrier has agreed to carry the cargo at that value.

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.

CARRIER SIGNATURE / PICKUP DATE
Carrier acknowledges receipt of packages and regular pickup. Carrier certifies emergency response information was made available and/or carrier has the DOT emergency response guidebook or equivalent documentation on the vehicle. Property described above is received in good order, except as noted.

Enter Terminal, Empty/Loaded:
 By Shipper By Driver
 By Driver By Driver/Proces

FOR HELP IN EMERGENCIES CALL: 1-800-438-5344
FREE DAY OR NIGHT

U.S.C.—14706(c)(1)(A) and (B).

LABELING & PLACARDING

§ 173.63 Cont'd: Additionally, packages containing ~~these~~ such articles are excepted from the requirements of subparts E (Labeling) and F (Placarding) of part 172 of this subchapter.



ORM-D PARAGRAPH

§ 173.63 Cont'd: (ii) Until December 31, 2012, a package containing such articles may be marked with the proper shipping name “Cartridges, small arms” or “Cartridges, ~~power device~~ for tools, blank (used to project fastening devices)” and reclassified as “ORM-D-AIR” material if it contains properly packaged articles as authorized by this subchapter on October 1, 2010. Additionally, for transportation by aircraft, Cartridges, power devices must be successfully tested under the UN Test Series 6(d) criteria for reclassification as ORM-D-AIR material effective July 1, 2011. Until December 31, ~~2013~~ 2020, a package containing such articles may be marked with the proper shipping name “Cartridges, small arms” or “Cartridges, ~~power device~~ (used to project fastening devices)” and reclassified as “ORM-D” material if properly packaged articles as authorized by this subchapter on October 1, 2010.



ELIGIBLE CARTRIDGES

§ 173.63: (iii) Cartridges, small arms and ~~Cartridges power devices~~ for tools, blank, and Cases, cartridge empty with primer that may be shipped as a limited quantity or ORM-D material are as follows:

- (A) Ammunition for rifle, pistol or shotgun;
- (B) Ammunition with inert projectiles or blank ammunition;



ELIGIBLE CARTRIDGES

...

(C) Ammunition having no tear gas, incendiary, or detonating explosive projectiles;

(D) Ammunition not exceeding 12.7 mm (50 caliber or 0.5 inch) for rifle or pistol, cartridges or 8 gauge for shotshells; and

(E) Cartridges, ~~power devices which are used to project fastening devices for tools, blank; and~~

(F) Cases, cartridge, empty with primer.



**Bullet, Cartridges,
Shotshell**

LQ/ORM-D PACKAGING

§ 173.63: (b)(2) Packaging for Cartridges, small arms and ~~eligible Cartridge, power devices~~, Cartridges for tools, blank, Cases, cartridge empty with primer as limited quantity or ORM-D material must be as follows:

(i) Ammunition must be packed in inside boxes, or in partitions ~~which~~ that fit snugly in the outside packaging, or in metal clips;



LQ/ORM-D PACKAGING

§ 173.63: (ii) Primers must be protected from accidental initiation;



- **Loose Jumble Pack Centerfire Ammo Is Eligible For 1.4S, But Not LQ/ORM-D**

LQ/ORM-D PACKAGING

§ 173.63: (iii) Inside boxes, partitions or metal clips must be packed in securely-closed strong outside packagings;



LQ/ORM-D PACKAGING

§ 173.63: (iv) Maximum gross weight is limited to 30 kg (66 pounds) per package; and



LQ/ORM-D PACKAGING

§ 173.63: (v) Cartridges, power devices which are used to project fastening devices for tools, blank, Cases, cartridge, empty with primer, and 22 caliber rim-fire cartridges may be packaged loose in strong outside packagings.



LQ MARK

- The LQ marking must be durable, legible and of a size relative to the package that is readily visible.
- On at least one side or one end
- Minimums: 2mm border and each side 100 mm
- Unless the package size requires reduced size marking, then minimum 50 mm on each side.
- The top, bottom and border must be black, and the center white or a contrasting



background

LQ MARKING EXCEPTIONS

Except for air shipments:

- **When Marked With The Limited Quantity Marking.**
- **LQ Not Required To Be Marked With Proper Shipping Name Or UN Number (Except Air)**
- **Spec Packaging Not Required In US or Canada**



MINIMUM MARKING

FROM: ABC COMPANY
123 ANY STREET
JACKSON, WY 12345 USA

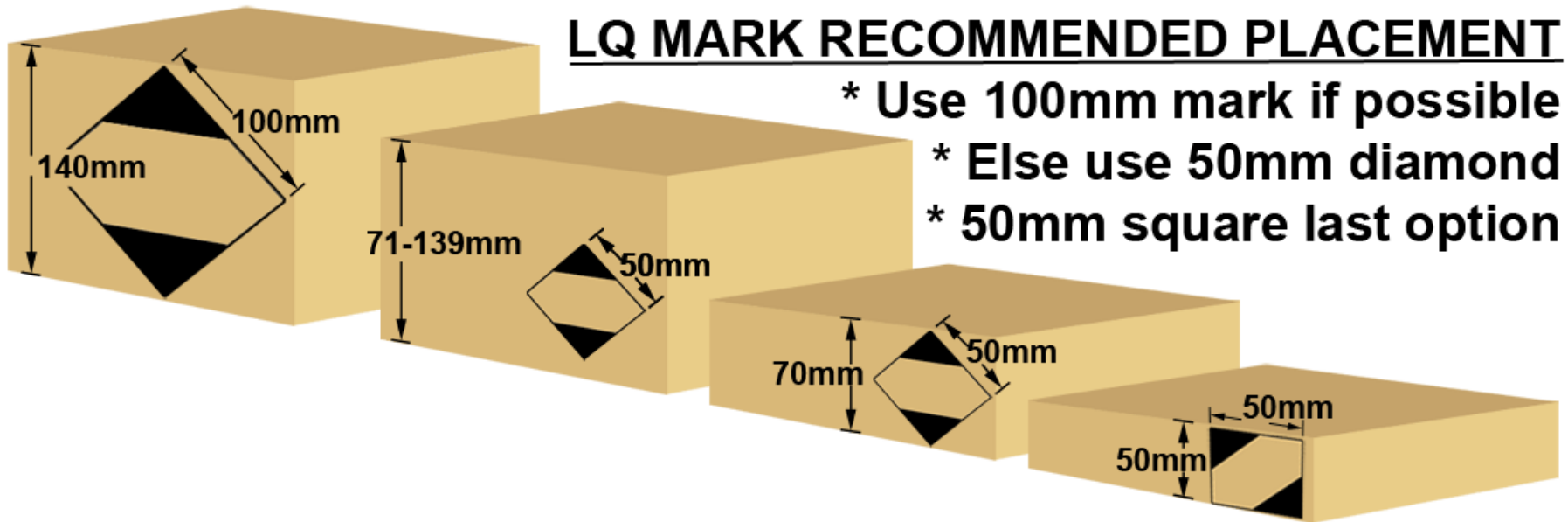
4G/Y17.4/S/11
USA/+CA304



STANDARD MARKING

CHOOSING A SIZE

LQ MARK RECOMMENDED PLACEMENT



OVERPACKS

Unless Markings Are Visible, Overpacks Must Be Marked “OVERPACK” And Relevant LQ Mark



LQ FREIGHT CONTAINER



When intended for vessel, a cargo transport unit containing only LQ material must be suitably marked on each side or end with minimum dimensions of 250 mm on each side.



S A A M M I[®]

SPORTING ARMS AND AMMUNITION MANUFACTURERS' INSTITUTE, INC.

SINCE 1926

2013 LOGISTICS SEMINAR

OCEAN FREIGHT

SAAMI[®]

SPORTING ARMS AND AMMUNITION MANUFACTURERS' INSTITUTE, INC.

SINCE 1926

2013 LOGISTICS SEMINAR - Ammunition & Components -

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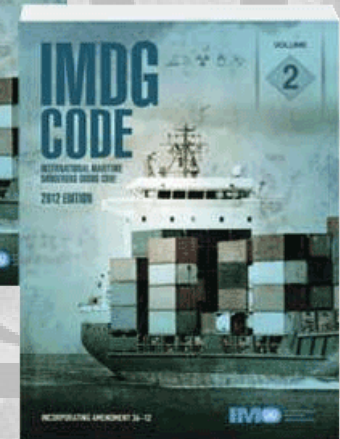
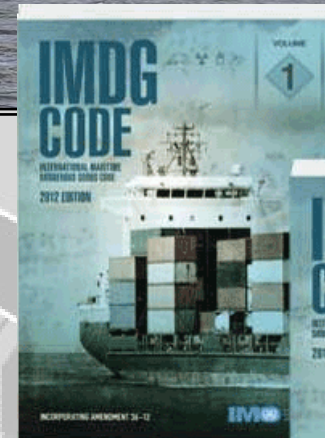
International Maritime Dangerous Goods Code



- ❑ **IMDG Published By The International Maritime Organization (IMO)**
- ❑ **A UN Body, Meets In London On Biennium Basis**
- ❑ **Code Revised Every 2 Years**
- ❑ **Latest Edition: 36-12, January 1, 2013 (Replaces 35-10)**

IMDG VS. 49 CFR

- ❑ IMDG Applies By Ocean
- ❑ ORM-D, Special Permits, NA #'s – Not Valid
- ❑ Ammunition Reverts To 1.4S



IMDG IN THE USA

DOT ALLOWS IMDG TO OVERRIDE:

- If All Or Part Of The Voyage Is By Vessel
- Even If It Isn't International

DOT STILL REQUIRES:

- Emergency Response Information
- Training
- Security Plans
- Incident Reporting
- Packaging Standards
- Registration
- EX #'s



2008 Emergency Response Guidebook

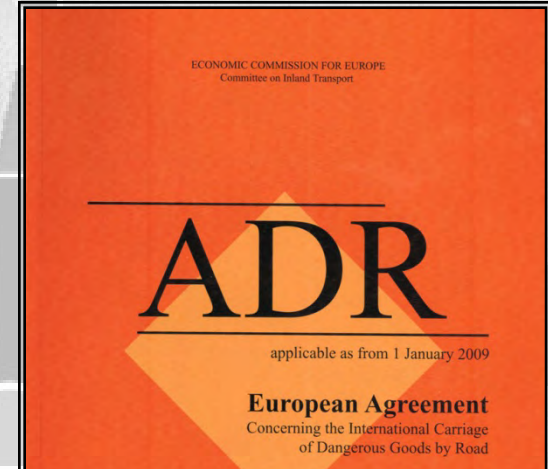


A GUIDEBOOK
FOR FIRST RESPONDERS
DURING THE INITIAL PHASE
OF A DANGEROUS GOODS/
HAZARDOUS MATERIALS
INCIDENT

IMDG IN ADR COUNTRIES

1.1.4.2 ADR ALLOWS IMDG TO OVERRIDE:

- Carriage In A Transport Chain Including Maritime
- Includes Packing, Marking & Labeling & Freight Container Placards.



ADR CONTRACTING PARTIES:

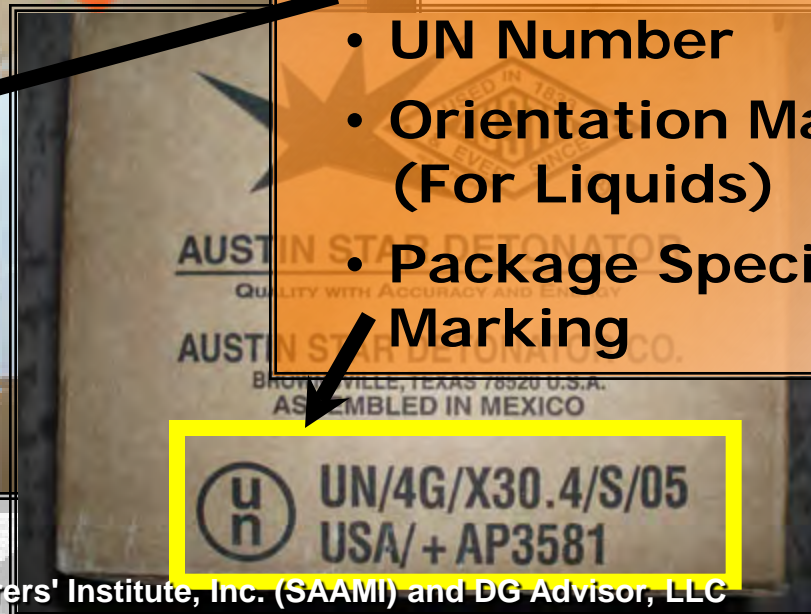
Albania, Andorra, Austria, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Kazakhstan, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Montenegro, Morocco, Netherlands, Norway, Poland, Portugal, the Republic of Moldova, Romania, Russian Federation, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tajikistan, the former Yugoslav Republic of Macedonia, Tunisia, Turkey, Ukraine and United Kingdom.

Volume I

IMDG GENERAL MARKINGS

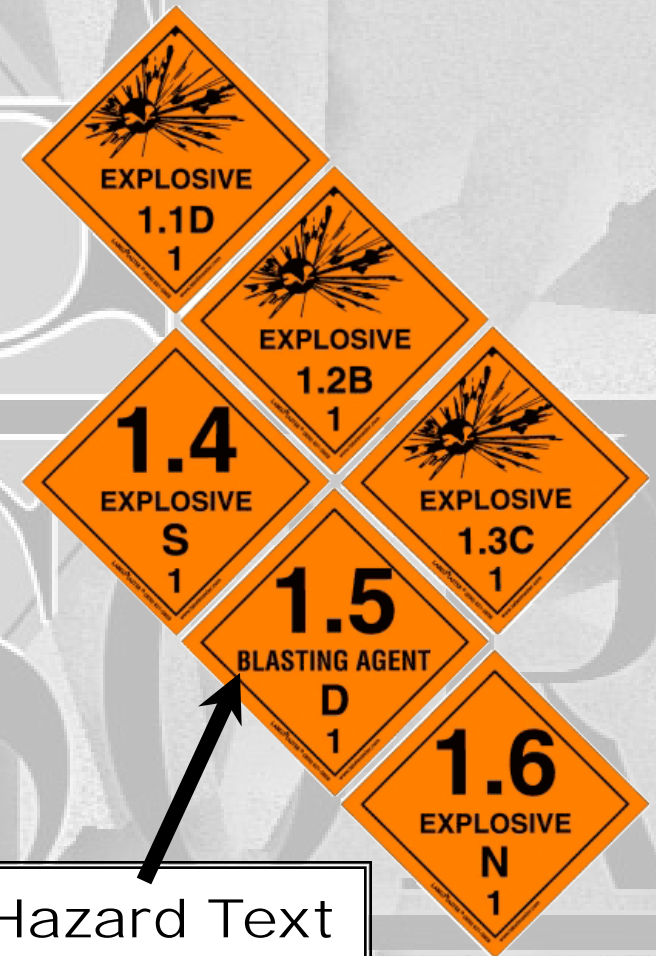


- Markings Shall Be Identifiable On Packages Surviving 3 Months Immersion In The Sea
- Markings Must Include:
 - Proper Shipping Name
 - UN Number
 - Orientation Markings (For Liquids)
 - Package Specification Marking



IMDG LABELING

- ❑ US Labels Meet IMDG Specification
- ❑ Hazard Class Text Is Optional (Like The USA)
- ❑ Packages Receiving Approval (e.g. EX#'s) Must Use Their Country's Design – Use USA Class 1 Labels
- ❑ Labels Are Minimum 100mm Per Side (Same As USA)
- ❑ Labels, Printed Or Stickers, Must Survive 3 Month's Immersion In The Sea

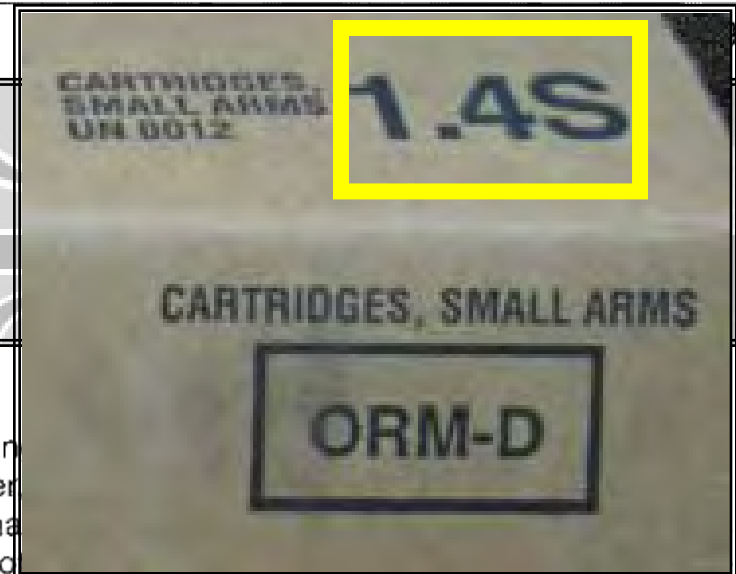


Hazard Text
Optional

1.4S MARKING

5.2.2.2.1.4 In addition, except for divisions 1.4, 1.5 and 1.6, labels for class 1 shall show in the lower half, above the class number, the division number and compatibility group letter for the substance or article. Labels for divisions 1.4, 1.5 and 1.6 shall show in the upper half the division number and in the lower half the class number and the compatibility group letter. For division 1.4, compatibility group S, no label is generally required. However, in cases where a label is considered necessary for such goods, it shall be based on model No. 1.4.

IMDG Code (Amdt. 36-12)



5.2.1 Marking of packages including IBCs

5.2.1.1 Unless provided otherwise in this Code, the Proper Shipping Name, hazard class or division, and the corresponding UN Number shall be marked on each package. The UN number and the letters "UN" shall be marked on packages of 30 L or 30 kg capacity or less and except for cylinders of 30 L or 30 kg capacity or less and except for cylinders of 30 L or 30 kg capacity or less and except for cylinders of at least 6 mm in height and for packagings of 5 L or 5 kg or less when they shall be of an appropriate size. In the case of unpackaged articles, the marking shall be displayed on the article, on its cradle or on its handling, storage or launching device. For goods of division 1.4, compatibility group S, the division and compatibility group letter shall also be marked unless the label for 1.4S is displayed. A typical package marking is:

CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (caprylyl chloride) UN 3265.

PLACARDSS & CTU MARKING

- ❑ Cargo Transport Units Must Normally Be Placarded, e.g. Class 3 solvents
- ❑ No Placards For 1.4S



No Container Placard



SEGREGATION TABLE

CLASS	1.1	1.3	1.4	2.1	2.2	2.3	3	4.1	4.2	4.3	5.1	5.2	6.1	6.2	7	8	9
	1.2	1.6															
Explosives 1.1, 1.2, 1.5	*	*	*	4	2	2	4	4	4	4	4	4	2	4	2	4	X
Explosives 1.3, 1.6	*	*	*	4	2	2	4	4	4	4	4	4	2	4	2	4	X
Explosives 1.4	*	*	*	2	1	2	4	4	4	4	4	4	2	4	2	4	X
Flammable gases 2.1	4	4	2	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Non-toxic, non-flammable gases 2.2	2	2	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Toxic gases 2.3	2	2	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Flammable liquids 3	4	4	2	2	1	2	X	X	2	1	2	2	X	3	2	X	X
Flammable solids (including self-reactive substances and solid desensitized explosives) 4.1	4	3	2	1	X	X	X	X	X	X	X	X	X	X	X	X	X
Substances liable to spontaneous combustion 4.2	4	3	2	2	1	2	X	X	X	X	X	X	X	X	X	X	X
Substances, which on contact with water, emit flammable gases 4.3	4	4	2	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Oxidizing substances (agents) 5.1	4	4	2	2	X	X	X	X	X	X	X	X	X	X	X	X	X
Organic peroxides 5.2	4	4	2	2	1	2	X	X	X	X	X	X	X	X	X	X	X
Toxic substances 6.1	2	2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Infectious substances 6.2	4	4	4	4	2	2	X	X	X	X	X	X	X	X	X	X	X
Radioactive material 7	2	2	2	2	1	1	X	X	X	X	X	X	X	X	X	X	X
Corrosive substances 8	4	2	2	1	X	X	X	X	X	X	X	X	X	X	X	X	X
Miscellaneous dangerous substances and articles 9	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Same Results For Class 1 As Domestic Vessel

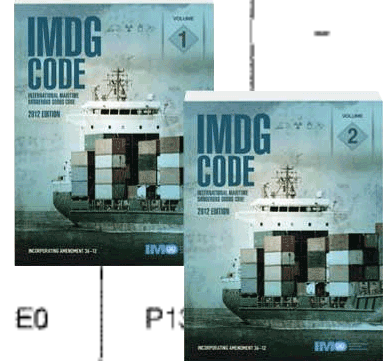


LQ CHANGES: CHAP 3.2

3

D
G
L

UN No.	Proper Shipping Name (PSN)	Class or division	Subsidiary risk(s)	Packing group	Special provisions	Limited and excepted quantity provisions		Packing	
						Limited quantities	Excepted quantities	Instructions	Provisions
(1)	(2) 3.1.2	(3) 2.0	(4) 2.0	(5) 2.0.1.3	(6) 3.3	(7a) 3.4	(7b) 3.5	(8) 4.1.4	(9) 4.1.4
△ 0012	CARTRIDGES FOR WEAPONS, INERT PROJECTILE or CARTRIDGES, SMALL ARMS	1.4S	-	-	364	5 kg			-
△ 0014	CARTRIDGES FOR WEAPONS, BLANK or CARTRIDGES, SMALL ARMS, BLANK or CARTRIDGES FOR TOOLS, BLANK	1.4S	-	-	364	5 kg			-
△ 0055	CASES, CARTRIDGE, EMPTY, WITH PRIMER	1.4S	-	-	364	5 kg	E0	P133	
△ 0044	PRIMERS, CAP TYPE	1.4S	-	-	-	0	E0	P133	-



- 5kg and SP364 on UN 0012, 0014, 0055
- New PSN on UN 0014 “Cartridges for tools, blank”

LQ CHANGES: CHAP 3.3

IMDG Code (Amdt 36-12)

Chapter 3.3

Special provisions applicable to certain substances, materials or articles

3.3.1 When column 6 of the Dangerous Goods List indicates that a special provision is relevant to a dangerous good, the meaning and requirement(s) of that special provision are as set out below:

16 Samples of new or existing explosive substances or articles may be transported as directed by the competent authority for purposes including: testing, classification, research and development, quality control, or as a commercial sample. Explosive samples which are not wetted or desensitized shall be limited to 10 kg in small packages as specified by the competent authority. Explosive samples which are wetted or desensitized shall be limited to 25 kg.

- 364 This article may only be transported under the provisions of chapter 3.4 if, as presented for transport, the package is capable of passing the test in accordance with Test Series 6(d) of Part I of the *Manual of Tests and Criteria* as determined by the competent authority.

3



LQ CHAPTER 3.4

△ Chapter 3.4

Dangerous goods packed in limited quantities

LQ ELIMINATES MANY REQUIREMENTS

3.4.1 General

3.4.1.1 This chapter provides the provisions applicable to the transport of dangerous goods of certain classes packed in limited quantities. The applicable quantity limit for the inner packaging or article is specified for each substance in column 7a of the Dangerous Goods List of chapter 3.2. In addition, the quantity "0" has been indicated in this column for each entry not permitted to be transported in accordance with this chapter.

3.4.1.2 Limited quantities of dangerous goods packed in such limited quantities, meeting the provisions of this chapter, are not subject to any other provisions of this Code except the relevant provisions of:

- .1 Part 1, chapters 1.1, 1.2 and 1.3;
- .2 Part 2;
- .3 Part 3, chapters 3.1, 3.2, 3.3;
- .4 Part 4, 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8;
- .5 Part 5, 5.1.1 except 5.1.1.4, 5.1.2.3, 5.2.1.7, 5.2.1.9, 5.3.2.3, 5.3.2.4, and chapter 5.4;
- .6 Part 6, construction requirements of 6.1.4, 6.2.1.2 and 6.2.4;
- .7 Part 7, 7.1.3.2, 7.6.3.1 and 7.3 except 7.3.3.15 and 7.3.4.1.

LQ CHANGES: CHAP 3.4

3.4.2 Packing

3.4.2.1 Dangerous goods shall be packed only in inner packagings placed in suitable outer packagings. Intermediate packagings may be used. In addition, for articles of Division 1.4, Compatibility Group S, the provisions of section 4.1.5 shall be fully complied with. The use of inner packagings is not necessary for the transport of articles such as aerosols or “receptacles, small, containing gas”. The total gross mass of the package shall not exceed 30 kg.

3.4.2.2 Except for articles of Division 1.4, Compatibility Group S, shrink-wrapped or stretch-wrapped trays meeting the conditions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8 are acceptable as outer packagings for articles or inner packagings containing dangerous goods transported in accordance with this chapter. Inner packagings that are liable to break or be easily punctured, such as those made of glass, porcelain, stoneware or certain plastics, shall be placed in suitable intermediate packagings meeting the provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8, and be so designed that they meet the construction requirements of 6.1.4. The total gross mass of the package shall not exceed 20 kg.

.....

3.4.3 Stowage

Dangerous goods packed in limited quantity are allocated stowage category A as defined in 7.1.3.2. The other stowage provisions indicated in column 16 of the Dangerous Goods List are not applicable.

- **SAAMI changes include 1.4S LQ remaining as spec packaging**
- **Note 3.4.3 stowage exception into Category A:**

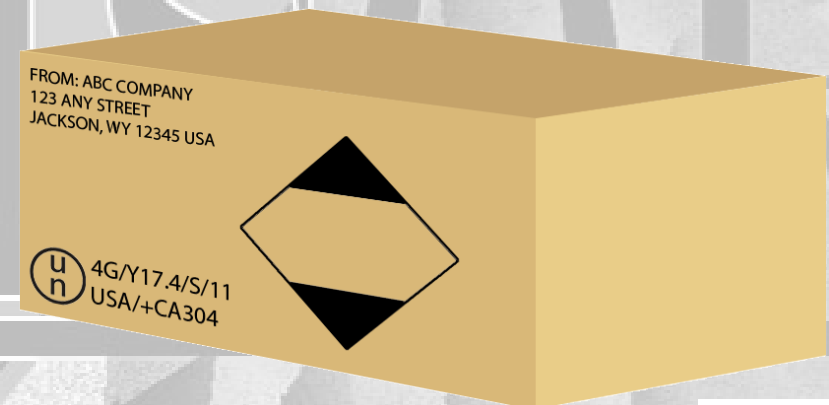
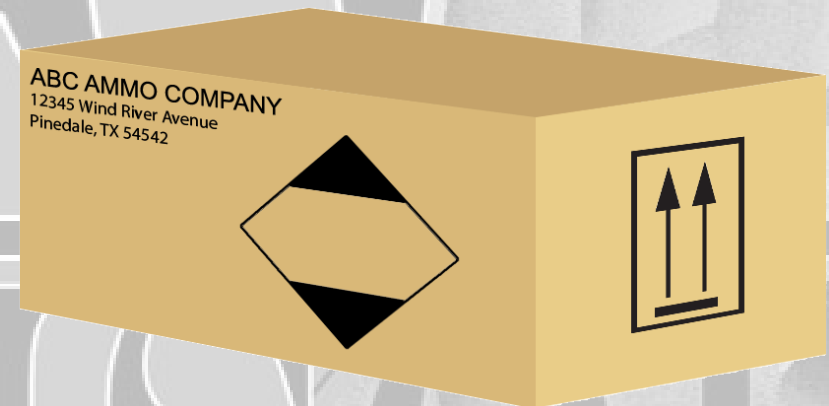
LQ STOWAGE: CHAP 3.4

3.4.4 Segregation

...

3.4.4.2 The segregation provisions of chapter 7.2 are not applicable for packagings containing dangerous goods in limited quantities or in relation to other dangerous goods.

- **LQ Is Not Subject To Segregation**
- **Ammo Can Now Ship In The Same Container With Other Dangerous Goods, e.g. Aerosol And Flammable Liquid Accessories.**



LQ CHANGES: CHAP 7.1

7.1.3 Stowage categories

7.1.3.1 Stowage categories for class 1

Dangerous goods of class 1 **other than division 1.4, compatibility group S, packed in limited quantities** shall be stowed as indicated in column 16 of the Dangerous Goods List in accordance with one of the categories specified below.

Stowage category 01	Cargo ships	On deck in closed cargo transport unit or under deck
	(up to 12 passengers)	
	Passenger ships	On deck in closed cargo transport unit or under deck

.....

7.1.3.2 Stowage categories for classes 2 to 9

Dangerous goods of classes 2 to 9 **and division 1.4, compatibility group S, packed in limited quantities** shall be stowed as indicated in column 16 of the Dangerous Goods List in accordance with one of the categories specified below:

Stowage category A

Cargo ships or passenger ships carrying a number of passengers limited to not more than 25 or to 1 passenger per 3 m of overall length, whichever is the greater number } ON DECK OR UNDER DECK

Other passenger ships in which the limiting number of passengers transported is exceeded } ON DECK OR UNDER DECK

SOLAS

Safety of Life at Sea

SOLAS Chapter II-2 Regulation 19

Carriage of Dangerous Goods

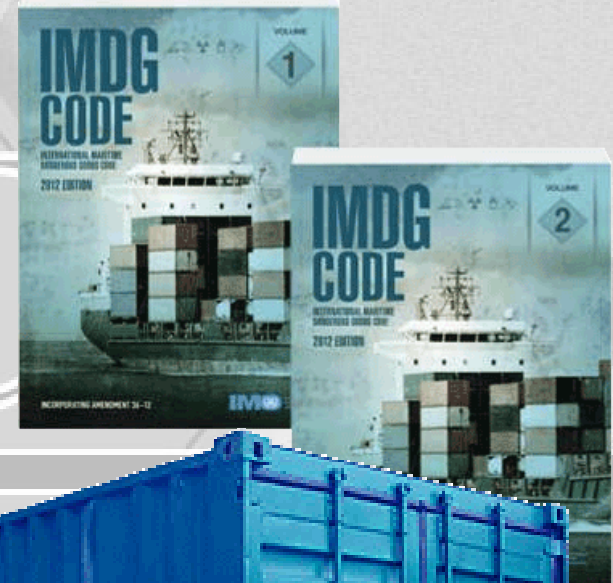
Purpose:

- Measures to address fire safety - Includes provisions
 - Water supplies, Sources of ignition, detection systems, ventilation, bilge pumping, fire extinguishers, insulating spray systems, etc.
- Document of Compliance
 - Based on construction criteria specifies where DG may be carried
- Limited Quantities
 - Excepted from SOLAS - Governed by IMDG Code



IMDG 1.4S LQ

- **No Label**
- **No Proper Shipping Name or UN#**
- **No Segregation!**
- **Stowage Category A**
- **SOLAS Exception**



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		

- 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

CLASS 1 SEGREGATION

Segregation shall also take account of a single subsidiary risk label.

CLASS	1.1 1.2 1.5	1.3 1.6	1.4	2.1	2.2	2.3	3	4.1	4.2	4.3	5.1	5.2	6.1	6.2	7	8	9	
Explosives	1.1, 1.2, 1.5	*	*	*	4	2	2	4	4	4	4	4	4	2	4	2	4	X
Explosives	1.3, 1.6	*	*	*	4	2	2	4	3	3	4	4	4	2	4	2	2	X
Explosives	1.4	*	*	*	2	1	1	2	2	2	2	2	2	X	4	2	2	X

The numbers and symbols in the table have the following meanings:

- 1 – “Away from”;
- 2 – “Separated from”;
- 3 – “Separated by a complete compartment or hold from”;
- 4 – “Separated longitudinally by an intervening complete compartment or hold from”.
- X – The Dangerous Goods List has to be consulted to verify whether there are specific segregation provisions.

- **1.4 very Restricted**
- **No Dispensation for 1.4S**



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OCEAN INITIATIVE

- ANALYSIS
- INFORMATION SHARING
- PARTNERSHIPS
- CHANGE



Port Policies

- National Explosives Legislation
- Class 1 Prohibitions
- Weight & Time Restrictions
- Night Movement Prohibition
- Special Docks & Berths
- Military Vs. Commercial
- End User Statement Formats Differ
- Written Permission Before Booking



NATIONAL/PORT REGULATIONS

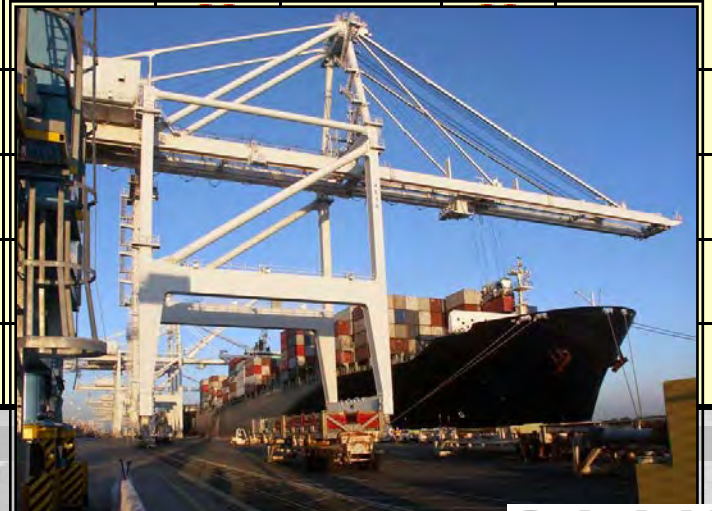
INHOUDSOPGAVE

SECTIE I	ALGEMENE VOORSCHRIFTEN VOOR HET BEHANDELEN VAN GEVAARLIJKE GOEDEREN IN DE HAVEN VAN ANTWERPEN.	1
	A. Index	1
	B. Algemene voorschriften voor het behandelen van gevaarlijke en/of verontreinigende goederen in de haven van Antwerpen	2
	C. Documentatie – Praktische Inlichtingen	3
SECTIE II	BIJZONDERE VOORWAARDEN VOOR HET BEHANDELEN VAN GEVAARLIJKE GOEDEREN OP DOORVOEROPSLAGPLAATSEN GELEGEN OP DE VOORKAAJEN.	4
	A. Index	4
	B. Bijzondere voorwaarden voor het behandelen van gevaarlijke goederen op doorvoeropslagplaatsen gelegen op de voorkaaien	5
	C. Documentatie – Praktische Inlichtingen	6
SECTIE III	BIJZONDERE VOORWAARDEN VOOR HET BEHANDELEN VAN GEVAARLIJKE GOEDEREN OP DOORVOEROPSLAGPLAATSEN GELEGEN OP DE ACHTERTERREINEN.	7
	A. Index	7
	B. Bijzondere voorwaarden voor het behandelen van gevaarlijke goederen op doorvoeropslagplaatsen gelegen op de achterterreinen	8
	C. Documentatie – Praktische Inlichtingen	9
SECTIE IV	BIJZONDERE BEPALINGEN VOOR HET BEHANDELEN VAN TECHNISCH ZUIVER AMMONIUMNITRAAT EN GELIJKGESTELDE MENGSELS IN DE HAVEN VAN ANTWERPEN.	10
	A. Index	10
	B. Bijzondere bepalingen voor het behandelen van technisch zuiver ammoniumnitraat en gelijkgestelde mengsels in de haven van Antwerpen	11
	C. Documentatie – Praktische Inlichtingen	12
SECTIE V	BIJZONDERE BEPALINGEN VOOR HET BEHANDELEN IN DE HAVEN VAN ANTWERPEN VAN AMMONIUMNITRAATMESTSTOFFEN samengesteld uit een lichte mengsel van ten hoogste 80% ammoniumnitraat en ten minste 20% fijn gemalen kalksteen, met een STIKSTOFGEHALTE (N) dat 28%, NIET OVERSCHRIJDT, die onthefing genieten voorzien in art. 2,b van het K.B. van 3/9/1958, gewijzigd bij K.B. van 12/1/1960.	13
	A. Index	13
	B. BIJZONDERE BEPALINGEN VOOR HET BEHANDELEN IN DE HAVEN VAN ANTWERPEN VAN AMMONIUMNITRAATMESTSTOFFEN samengesteld uit een lichte mengsel van ten hoogste 80% ammoniumnitraat en ten minste 20% fijn gemalen kalksteen, met een STIKSTOFGEHALTE (N) dat 28%, NIET OVERSCHRIJDT, die onthefing genieten voorzien in art. 2,b van het K.B. van 3/9/1958, gewijzigd bij K.B. van 12/1/1960.	14
	C. Documentatie – Praktische Inlichtingen	15

- National Explosives Legislation Varies
- Affects Port Regulations
- Difficulties in Obtaining
- Multiple Languages

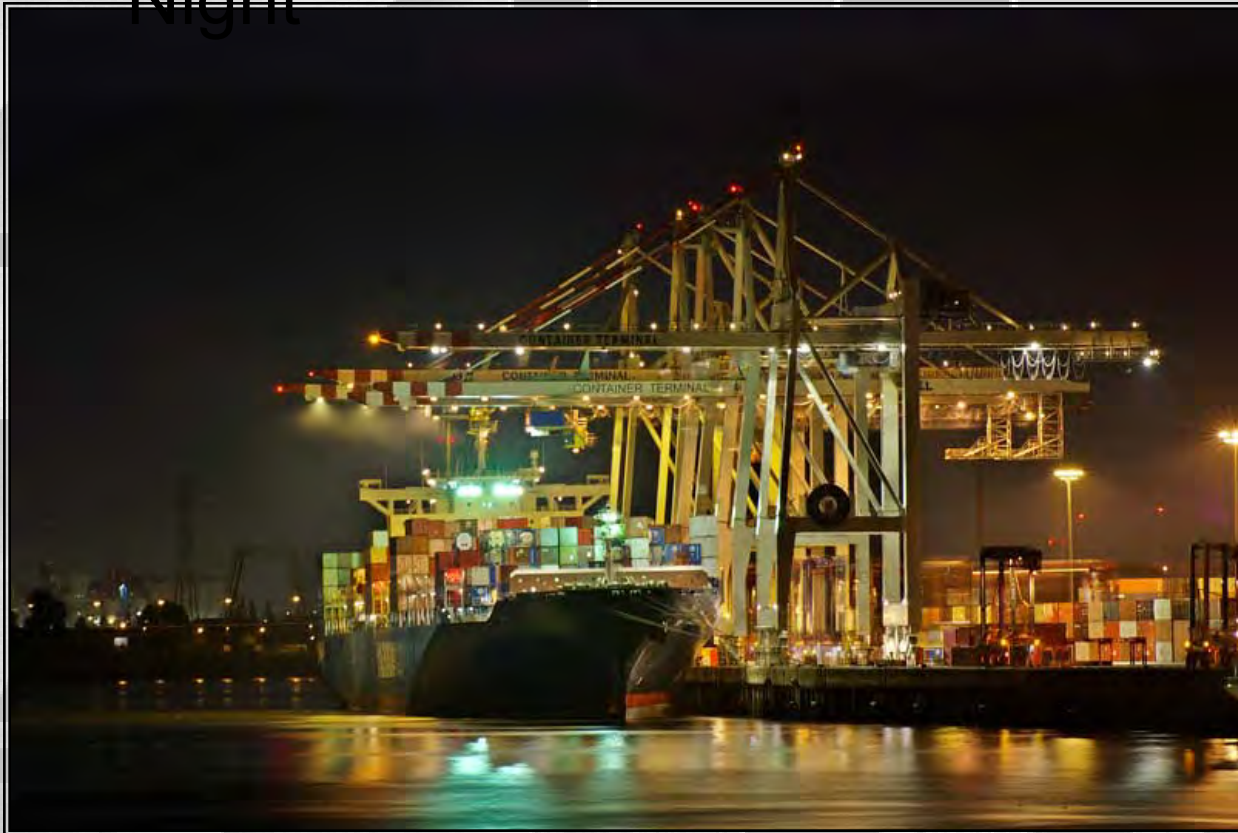
WEIGHT RESTRICTIONS

Class	OSAKA				KOBE				NAGOYA			
	Working		Entry		Working		Entry		Working		Entry	
	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
1	-	-	-	-	-	-	-	-	-	-	-	-
1.1	20	-	20	-	20	-	20	-	20	-	20	-
1.2	20	-	20	-	20	-	20	-	20	-	20	-
1.3	20	-	20	-	20	-	20	-	20	-	20	-
1.4	20	-	20	-	20	-	20	-	20	-	20	-
1.5	20	-	20	-	20	-	20	-	20	-	20	-
1.6	20	-	20	-	20	-	20	-	20	-	20	-



NIGHT PROHIBITION OF EXPLOSIVES LOADING

- Some Ports Do Not Allow Loading/Unloading at Night



LIGHTERING

- ❑ **Port Prohibitions May Require Lightering**
- ❑ **Container Removed Temporarily At Great Expense**
- ❑ **Trans-shipment And Barge Activity Create Additional Issues**



CHARTER SERVICE

- ❑ Liner Limitations May Be Solved By Feeder Charters
- ❑ May Triple The Cost

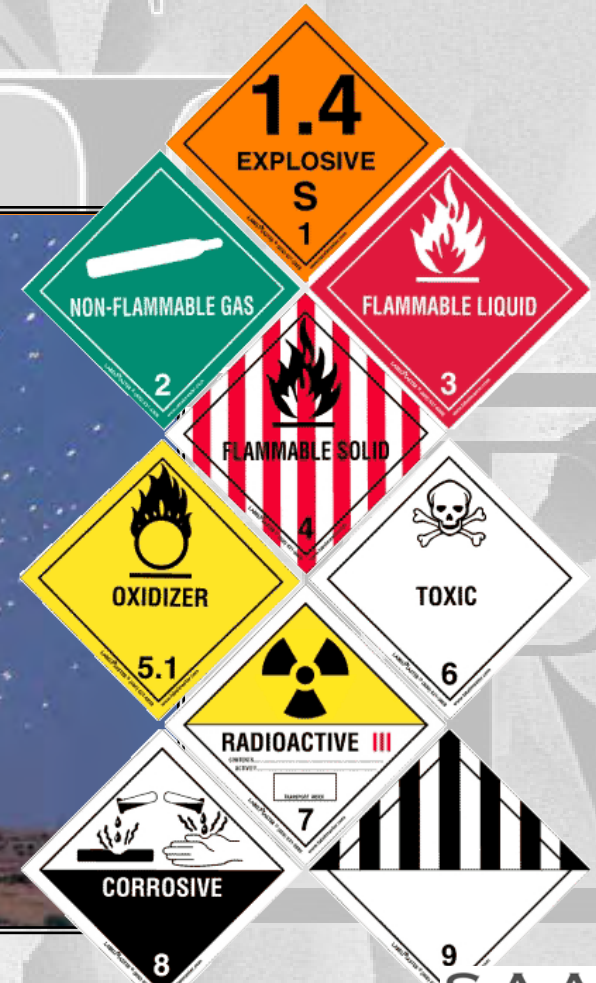


INEFFICIENCIES

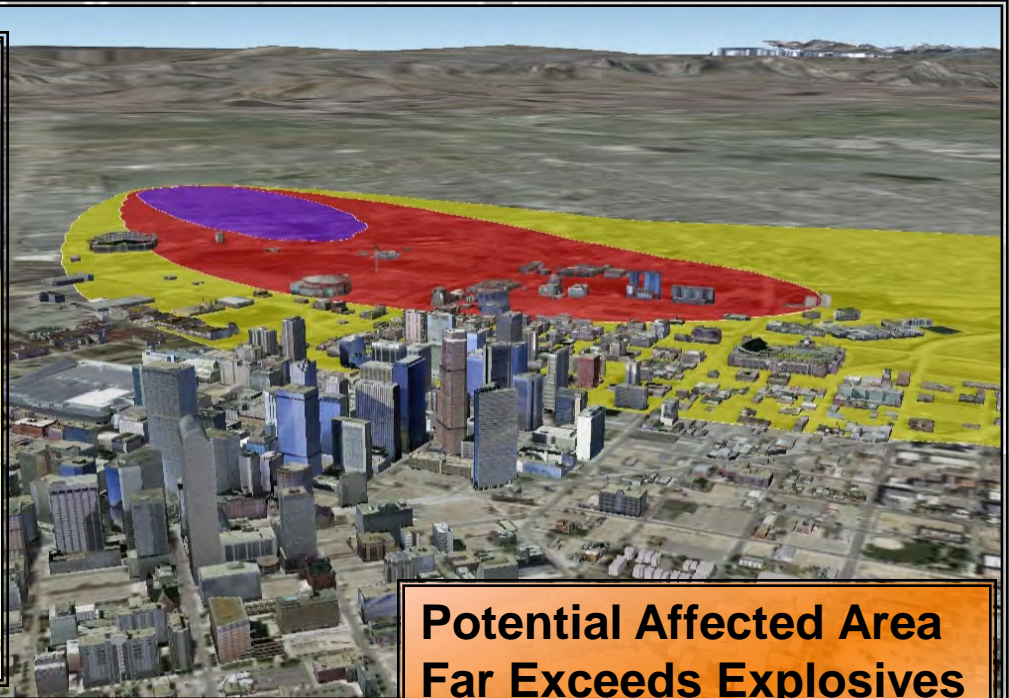
- ❑ Irregular scheduling interrupts supply
- ❑ Impossible to plan production of material (no Just-in-Time)
- ❑ Customer timing of proper paperwork filing at receiving port, critical since this material must leave ports immediately
- ❑ Lightering and Charter Service – Long Transit Times / High Cost (so high in most cases, we are not competitive)

Is CLASS 1 "The Worst"??

A Perception Exists
That Explosives Are
Far More Dangerous
Than All Other
Goods



HOWEVER...

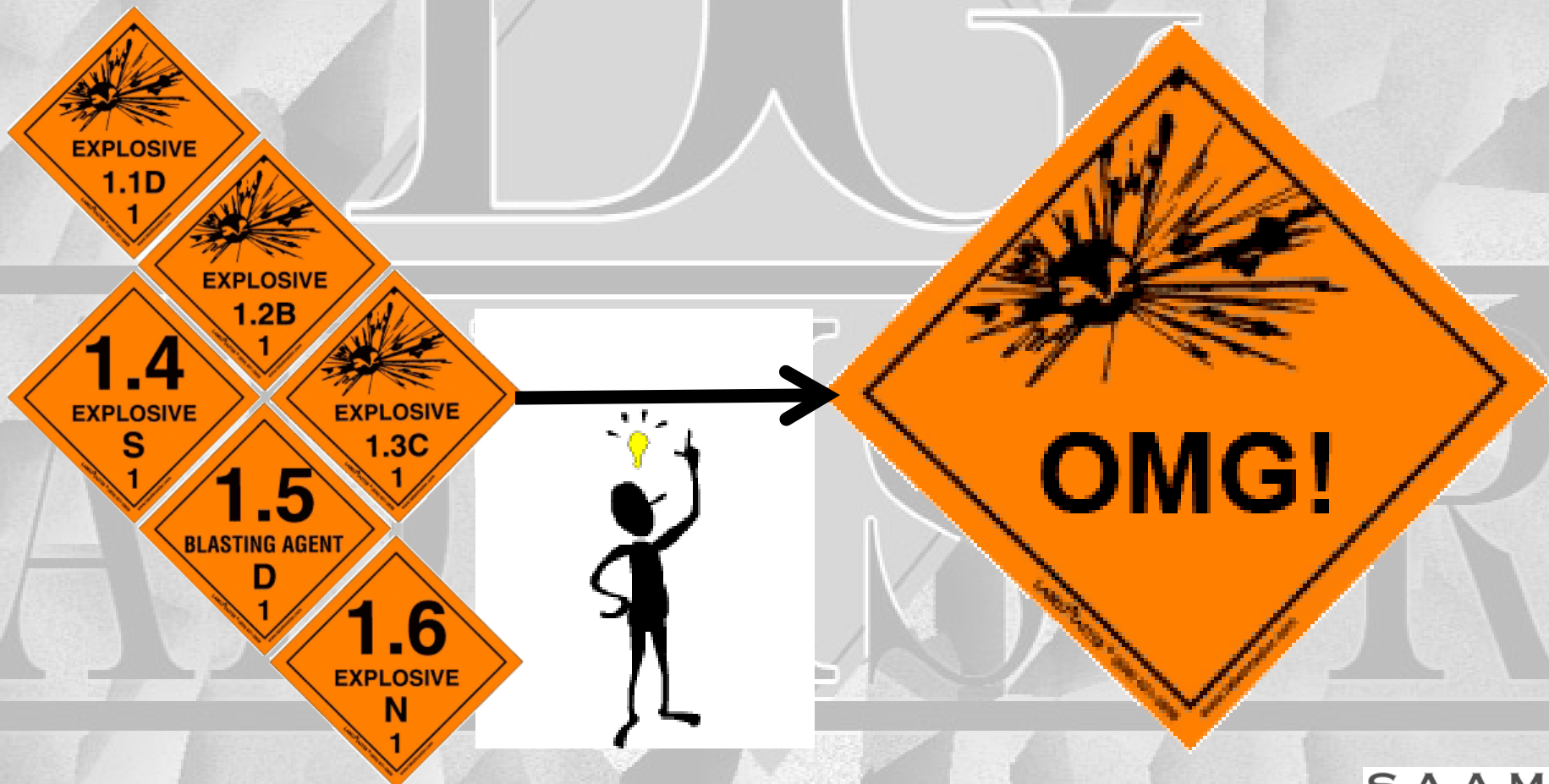


**Potential Affected Area
Far Exceeds Explosives**

- Chlorine Is Used To Treat Drinking Water & Prevent Disease, e.g. Cholera
- A Chlorine Plume From A Transport Incident Can Far Exceed The Consequences Of Any Explosive

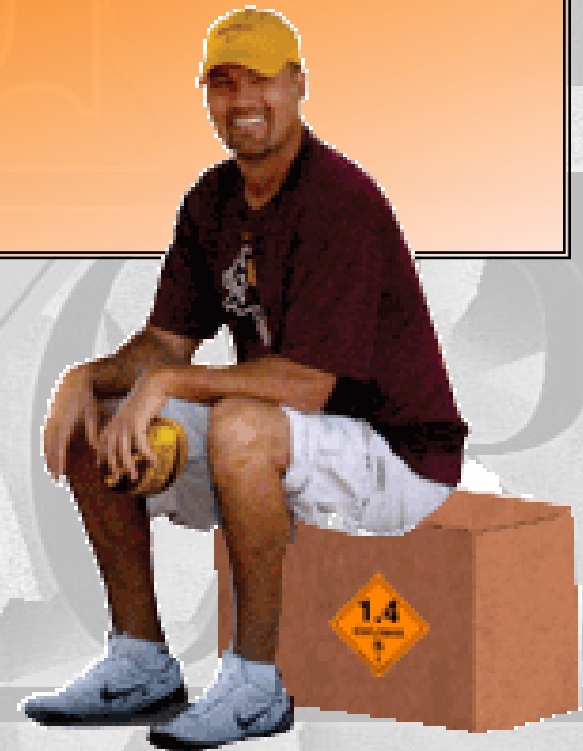
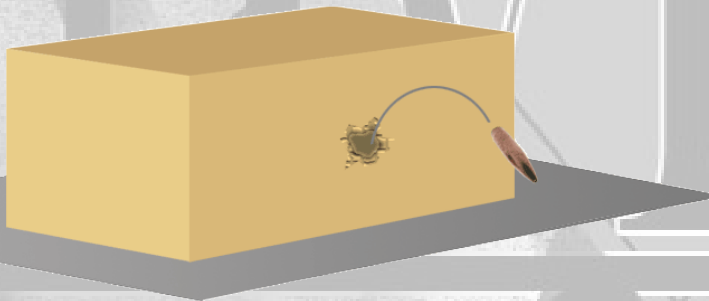
I SEE ORANGE!

- Explosives Vary Widely
- People See Orange And Don't Differentiate



1.4S DEFINITION

Substance or article so packed or designed that (1) any **hazardous effects** arising from accidental functioning are **confined within the package** (2) unless the package has been degraded by fire, in which case all blast or projection effects 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. *(Italics added)*



FIRE FIGHTING

- Fire Fighting Allowed For Dangerous Goods
- “S” Is Only Explosive For Which A Fire May Be Combated

2008 Emergency Response Guidebook



A GUIDEBOOK
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HAZARDOUS MATERIALS
INCIDENT



BONFIRE TEST 6(c)



All blast or projection effects ... do not significantly hinder or prohibit fire fighting or other emergency response efforts in the immediate vicinity of the package.

1.4S CRITERIA:

- No Mass Explosion
- No Metal Projectiles Hazardous To Fire Fighters
- No Flame Balls >4m Diameter
- No Fiery Projections >5m
- Must Burn >330

DEREGULATION

CLASS 3 EXAMPLE

2.3.2.6 Hazard grouping based on flammability

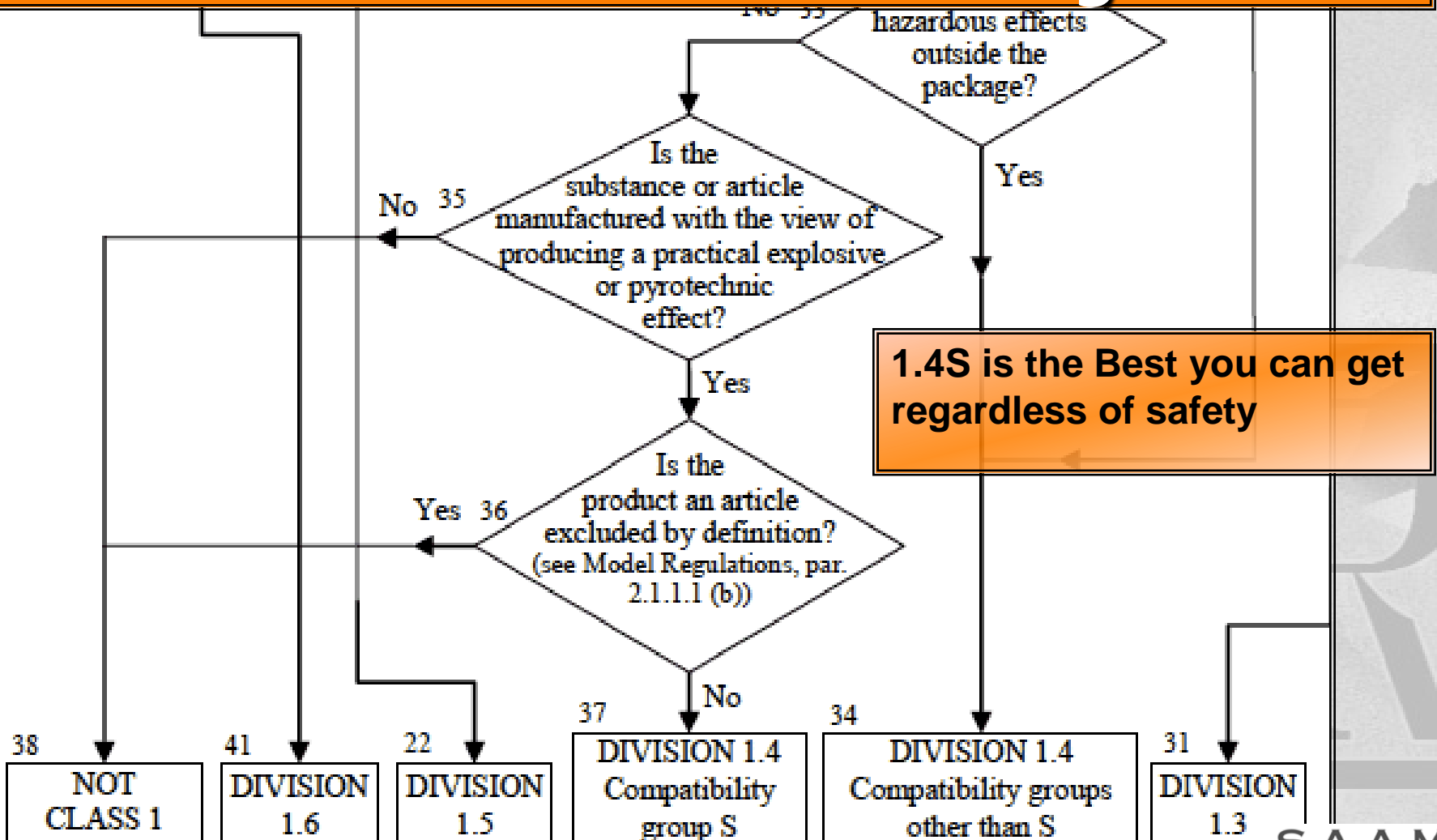
Packing group	Flash point (closed-cup)	Initial boiling point
I	--	≤ 35 °C
II	< 23 °C	> 35 °C
III	≥ 23 °C ≤ 60 °C	> 35 °C

CLASS 6 EXAMPLE

GROUPING CRITERIA FOR ADMINISTRATION THROUGH ORAL INGESTION, DERMAL CONTACT AND INHALATION OF DUSTS AND MISTS

Packing group	Oral toxicity LD ₅₀ (mg/kg)	Dermal toxicity LD ₅₀ (mg/kg)	Inhalation toxicity by dusts and mists LC ₅₀ (mg/l)
I	≤ 5.0	≤ 50	≤ 0.2
II	> 5.0 and ≤ 50	> 50 and ≤ 200	> 0.2 and ≤ 2.0
III ^a	> 50 and ≤ 300	> 200 and ≤ 1 000	> 2.0 and ≤ 4.0

Class 1 - No Deregulation Based on Safety



OTHER DG MAY FAIL 1.4S



NON-DG FAIL 1.4S

“...unless the package has been degraded by fire, in which case all blast or projection effects 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.”



LQ Versus Vessel Delay & Denial

CLASS	1.1 1.2 1.5	1.3 1.6	1.4	1.1	2.2	2.3	3	4.1	4.2	4.3	5.1	5.2	6.1	6.2	7	8	9
Explosives 1.1, 1.2, 1.5	*	*	*	4	2												
Explosives 1.3, 1.6	*	*	*	4	2												
Explosives 1.4	*	*	*	2	1												
Flammable gases 2.1	4	4	2	X	X												
Non-toxic, non-flammable gases 2.2	2	2	1	X	X												
Toxic gases 2.3	2	2	1	X	X												
Flammable liquids 3	4	4	2	2	1												
Flammable solids (including self-reactive substances and solid desensitized explosives) 4.1	4	3	2	1	X												
Substances liable to spontaneous combustion 4.2	4	3	2	2	1												
Substances, which on contact with water, emit flammable gases 4.3	4	4	2	X	X												
Oxidizing substances (agents) 5.1	4	4	2	2	X												
Organic peroxides 5.2	4	4	2	2	1												
Toxic substances 6.1	2	2	X	X	X												
Infectious substances 6.2	4	4	4	4	2												
Radioactive material 7	2	2	2	2	1												
Corrosive substances 8	4	2	2	1	X												
Miscellaneous dangerous substances and articles 9	X	X	X	X	X												

- X's Are Good
- Numbers Mean Not In The Same Container
- 1.4S ships with 6.1 & 9 only
- LQ ships with EVERYTHING



STOWAGE CATEGORY A

Stowage
category 01

Cargo ships
(up to 12 passengers)

On deck in closed cargo transport unit or under deck

Passenger ships

On deck in closed cargo transport unit or under deck

Stowage category A

Cargo ships or passenger ships carrying a number of passengers limited to not more than 25 or to 1 passenger per 3 m of overall length, whichever is the greater number

} ON DECK OR UNDER DECK

Other passenger ships in which the limiting number of passengers transported is exceeded

} ON DECK OR UNDER DECK

- **3.4.3 Stowage** Dangerous goods packed in limited quantity are allocated stowage category A as defined in 7.1.3.2. The other stowage provisions indicated in column (16) of the Dangerous Goods List are not applicable.
- **No CTU Required - Ferries**

“Safe Transport of Dangerous Cargoes In Port Areas”

“The regulatory authority should grant any exemption necessary from their requirements in the case of explosives in class 1, division 1.4, compatibility group S in accordance with the IMDG Code.”

6

GENERAL RECOMMENDATIONS FOR REGULATORY AUTHORITIES, PORT AUTHORITIES, SHIPS, BERTH OPERATORS AND CARGO INTERESTS

6.1 Regulatory authorities and port authorities

6.1.1 Acceptability of dangerous cargoes in port areas

6.1.1.1 The *regulatory authority* should determine the classes and quantities of *dangerous cargoes* which may be permitted to transit or to enter a *port area* by any mode of *transport* and the conditions under which they are to be handled, having regard to the facilities available for the reception and keeping of *dangerous cargoes* and the location of the *port area* in relation to nearby installations and centres of population. The *regulatory authority* should make such information available in the national and, where appropriate, English languages.

Safe Transport of Dangerous Cargoes in Port Areas

12 EXPLOSIVES IN CLASS 1, DIVISION 1.4, COMPATIBILITY GROUP S

12.1 The regulatory authority should grant any exemption necessary from their requirements in the case of explosives in class 1, division 1.4, compatibility group S, in accordance with the IMDG Code.

FAL. 6 CIRCULAR 15

ANNEX

ADVICE ON THE SHIPMENT OF DANGEROUS CARGOES AND, IN PARTICULAR, SPORTING AMMUNITION AND RELATED COMPONENTS (IMDG CODE DIVISION 1.4S)

General

1 Shipments of dangerous cargoes, including IMDG Code division 1.4S materials, when carried in bulk, should be carried in accordance with the relevant provisions of SOLAS Chapter VII, the IMDG Code and the relevant provisions of the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air. The relevant provisions of the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air should be considered as meeting the necessary safety requirements.

Specific advice

2 Materials of IMDG Code division 1.4S are recognized worldwide as being among the safest products of their nature. These materials are so packed and designed that any hazardous effects arising from accidental functioning are confined within the packages unless the package has been degraded by fire, in which case all blast or projection effects are limited to the extent that they do not scientifically hinder fire-fighting or other

“The Committee remains concerned about the potential adverse effects the denial of shipment of dangerous cargoes might have on international trade and expeditious handling and shipment of such cargoes.”

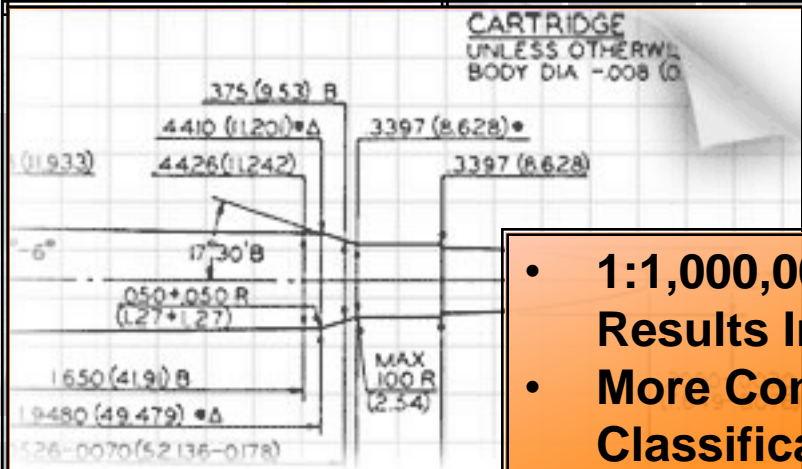
materials, when carried in bulk, should be carried in accordance with the relevant provisions of SOLAS Chapter VII, the IMDG Code and the relevant provisions of the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air. The relevant provisions of the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air should be considered as meeting the necessary safety requirements.

the safest products of their nature. These materials are so packed and designed that any hazardous effects arising from accidental functioning are confined within the packages unless the package has been degraded by fire, in which case all blast or projection effects are limited to the extent that they do not scientifically hinder fire-fighting or other

Ammunition Is Different



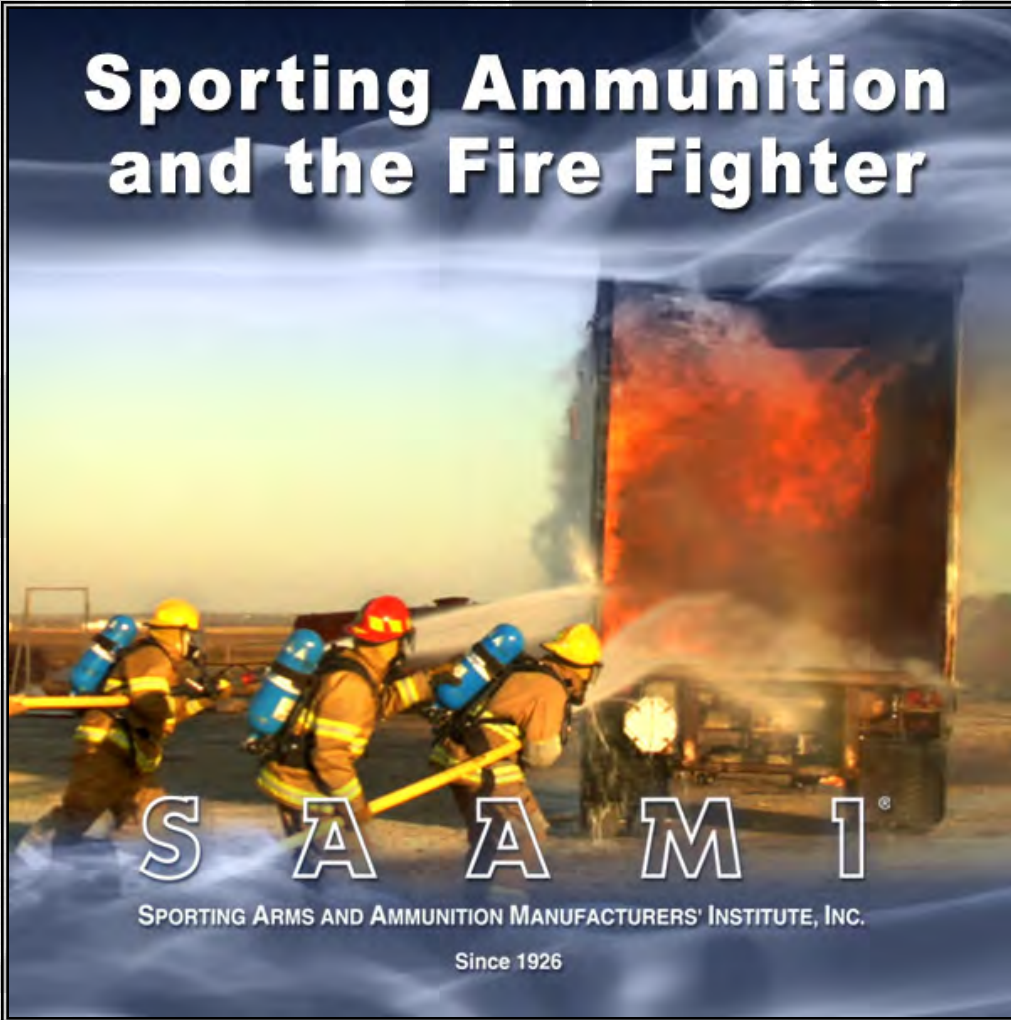
≠



- 1:1,000,00 Firearm Failure Rate Results In Recall
- More Controlled Than Classification Tests.

SAAMI VIDEOS

Sporting Ammunition and the Fire Fighter



- Unlikely To Ignite
- Regardless of Packaging:
 - Does Not Propagate
 - No Mass Explosion
- Fire Fighters Can Control Large Fire In 10 Seconds

SAAMI Video Training Tool



BALLISTICS
BRAND: REMINGTON
SHELL: 12 GAUGE 2 3/4"
SHOT: 1/8 OUNCE #8 LEAD
PROPELLANT: 8 GRAMS



UN 0161 Powder, smokeless



- **Tens of Millions Lbs. Transported Safely Annually**
- **2.5 Million Lbs. Per Year By Ocean.**
- **Propellant Producers Are Major US**

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Modern Process

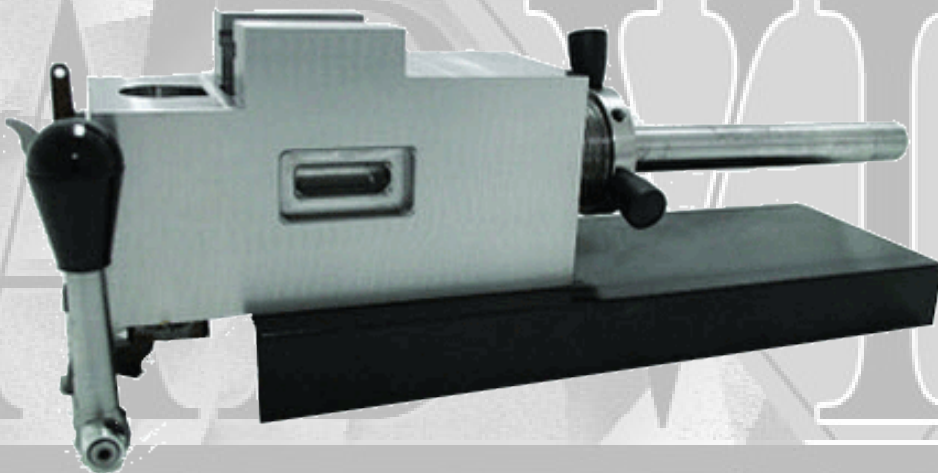
- **All Process Variables Rigorously Controlled.**
- **Computer Controlled Systems**
- **Statistics Process Control**
- **Thorough In-Process Testing.**



Quality Control

Finished Propellants Undergo Complete Acceptance Testing.

- **Product Stability**
- **Chemical Composition**
- **Physical Specifications**
- **Ballistics.**



UN Classification Testing

- All Propellants Meet UN Test Series 3 & 6
- Competent Authority Approved



Tight Specifications



Illustration of a propellant grain cross section

- **ISO 9001 (Quality System)**
- **ISO 14001 (Environmental System)**
- **OHSAS 18001 (Safety System).**
- **Registrar Performs 6-Month Audits**

UN 0161 Powder, Smokeless

- **Loads Are Containerized In Accordance With All Applicable Specifications.**
- **Each Container Inspected And Accepted Prior To Release For Shipment.**



INTERMODAL LOADING GUIDE for Products in Closed Trailers and Containers



Association of American Railroads

CONCLUSION

- ANALYSIS
- INFORMATION SHARING
- PARTNERSHIPS
- CHANGE





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2013 LOGISTICS SEMINAR

AIR FREIGHT

SAAMI[®]

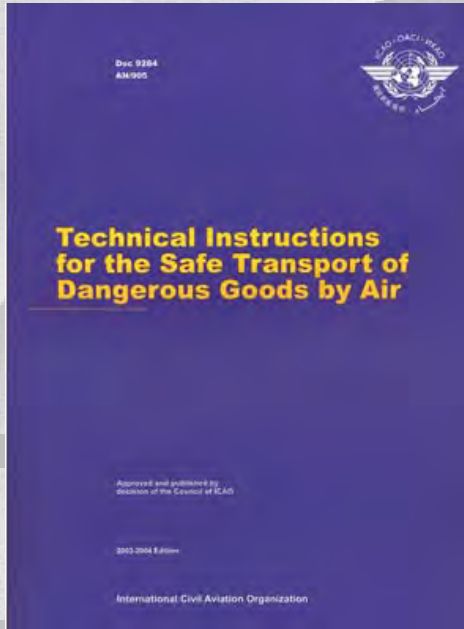
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2013 LOGISTICS SEMINAR - Ammunition & Components -

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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:

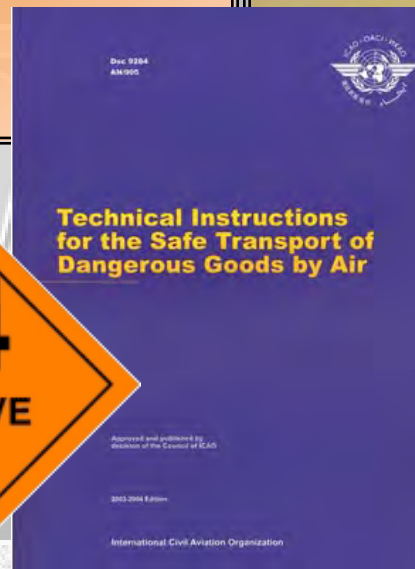
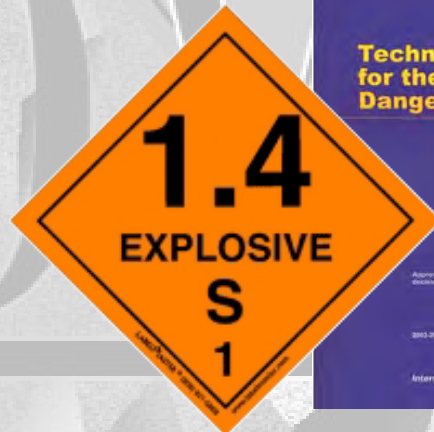
OTHER REGULATIONS



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

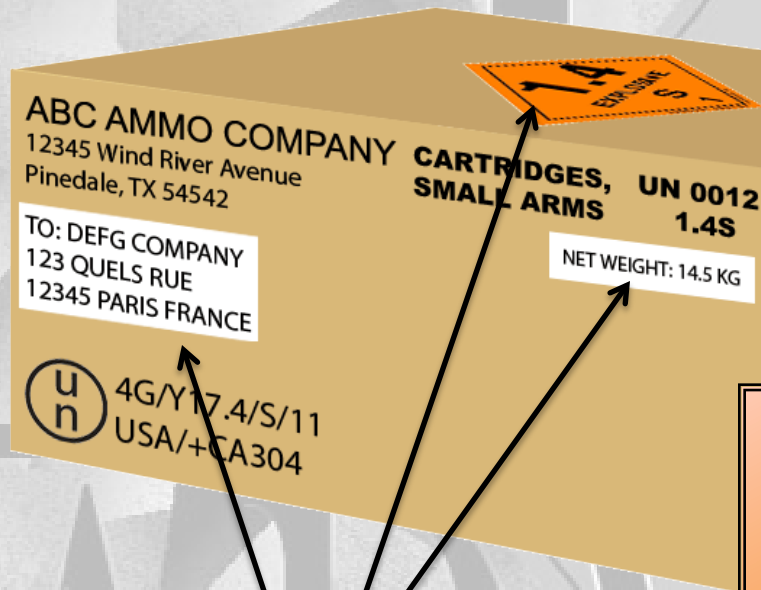
ICAO VS. 49 CFR

- ❑ 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

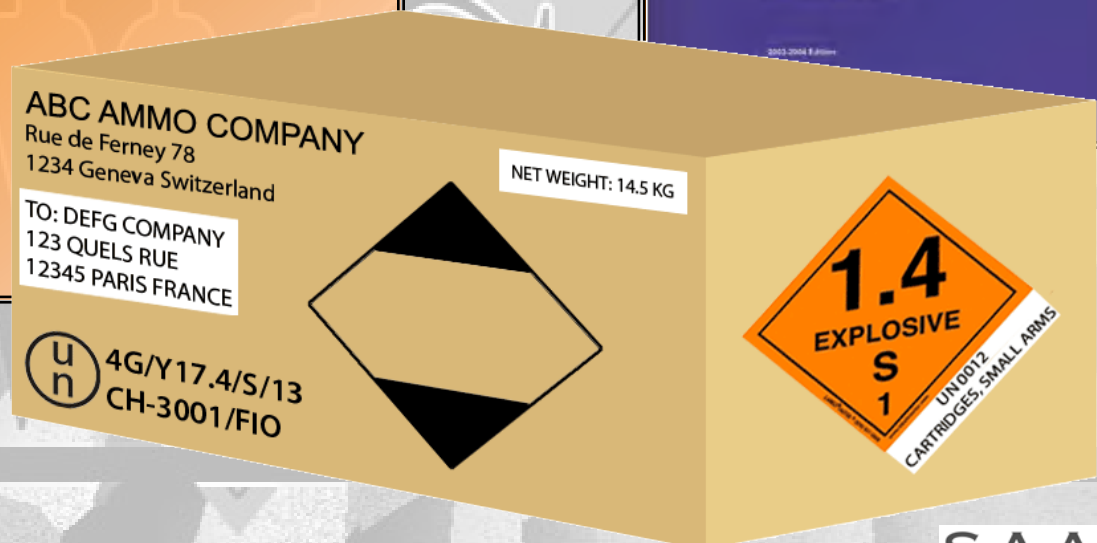
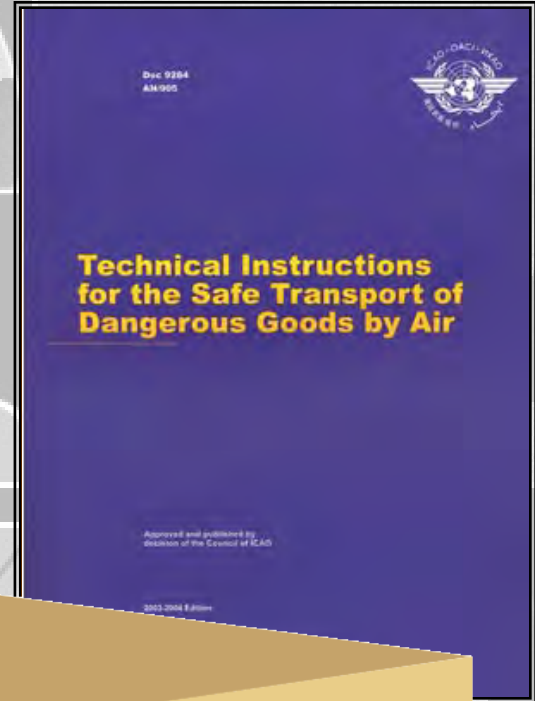
UN REQUIRES SPEC PACKAGE FOR LQ AMMO

NO ADVANTAGE BY AIR EXCEPT HARMONIZATION

AMMO IS NOT LQ IN ICAO

ICAO DECISION ON LQ AMMO

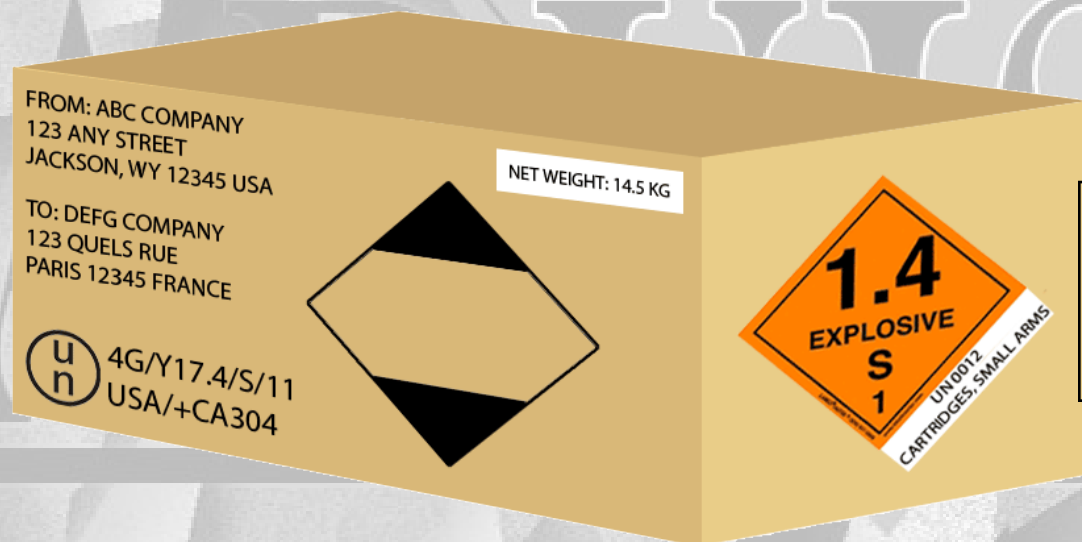
- Ammo Requires Spec Package In UN
- Spec Packaging Is Only Exception
- No Sense To Give LQ
- Allow And Ignore
- Practical Harmonization Issues



ALLOW AND IGNORE

5;2.4.13 Markings Required By Other Modes of Transport

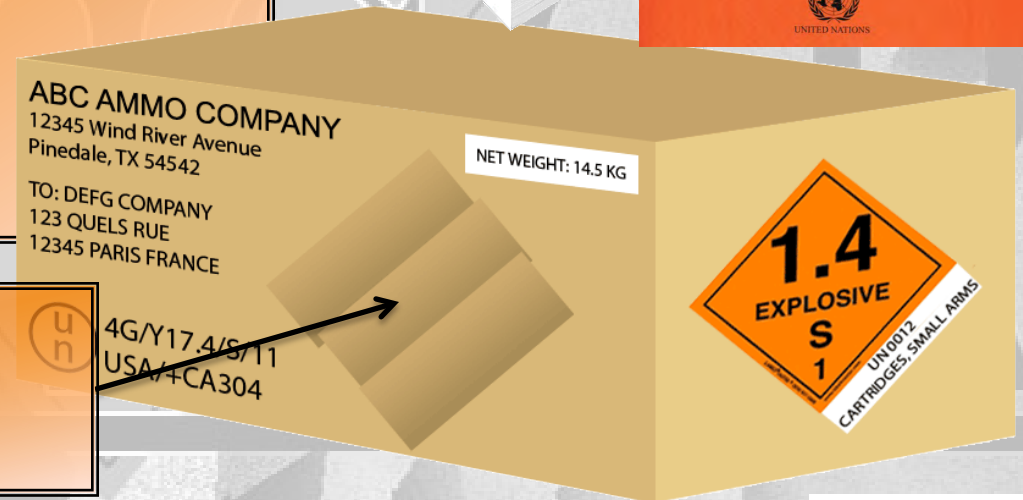
Markings required by other international or national transport regulations are permitted in addition to markings required by these Instructions, provided that they cannot be confused or conflict with any markings prescribed by these Instructions, because of their colour, design or shape.



**Standard Ammo
Package Prepared
For International
Air**

ICAO DECISION CONSEQUENCES

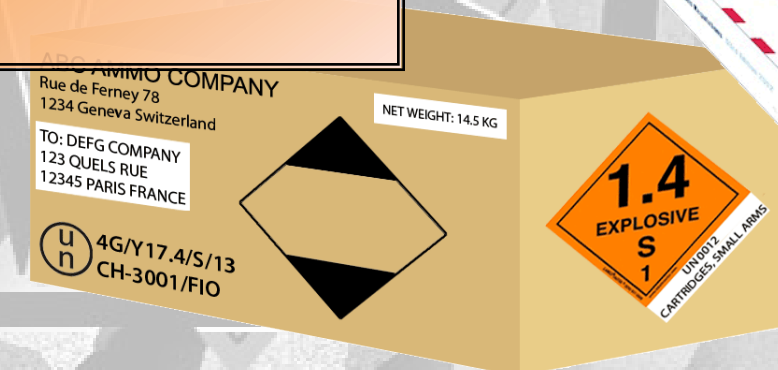
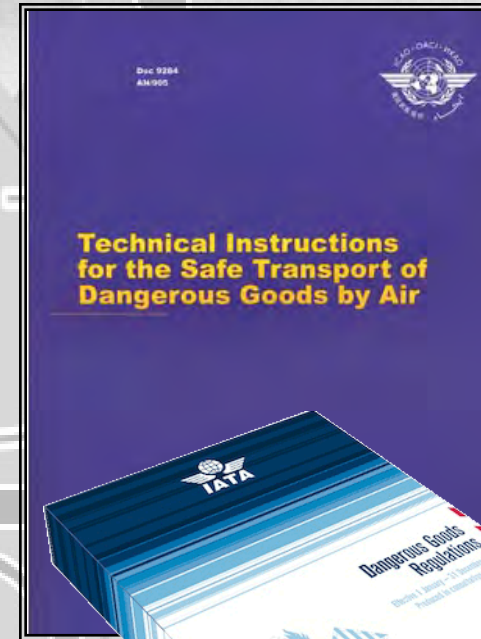
- ❑ Air Carriers Individually Refused To Allow & Ignore
- ❑ EU Road Inspectors Objected To Hazard Label With Surface LQ Mark
- ❑ Labor Cost To Obliterate LQ



**LABOR TO OBLITERATE
SURFACE LQ MARK**

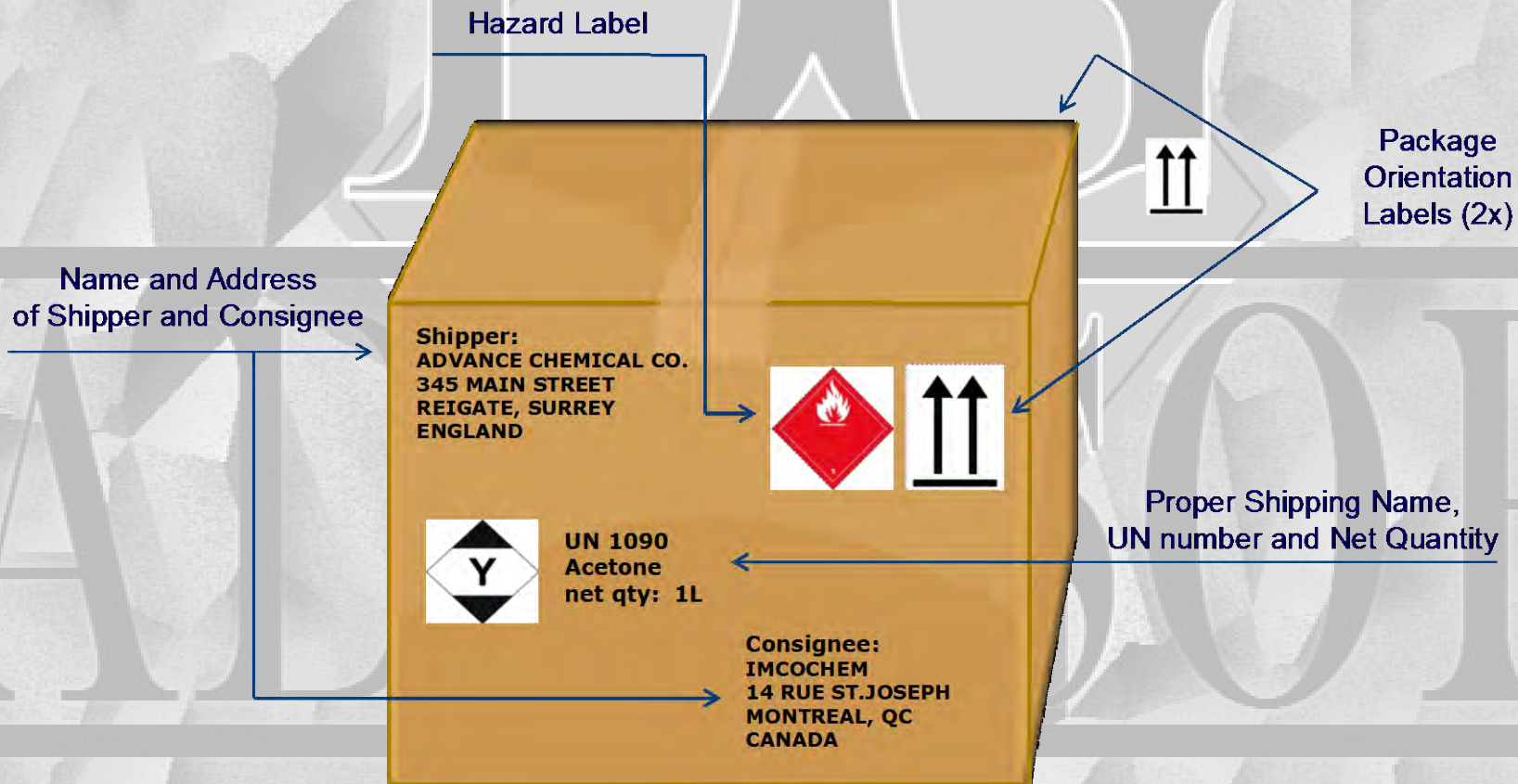
SAAMI GOES BACK TO ICAO

- ❑ 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



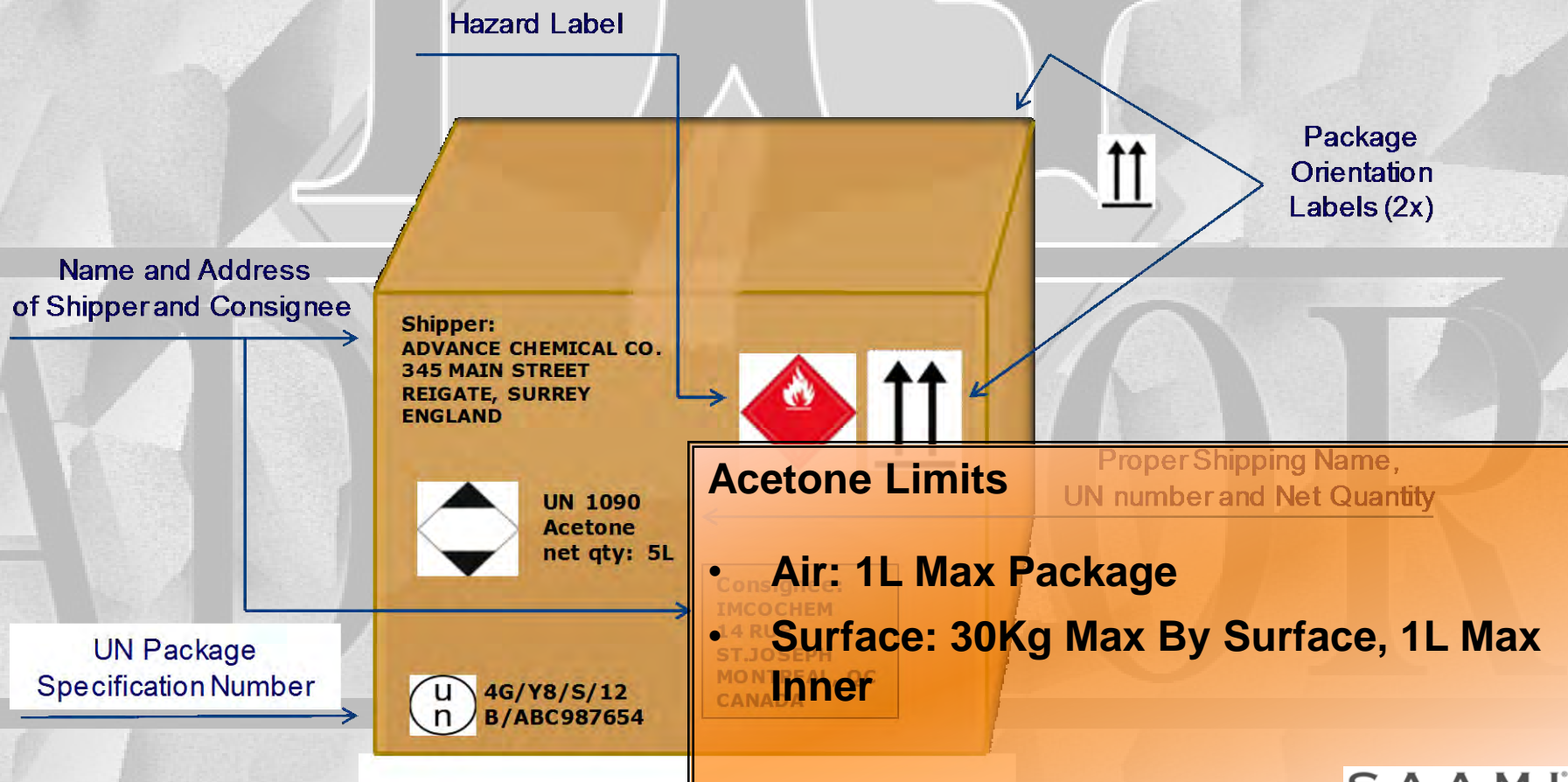
ICAO GUIDANCE (CONT'D)

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



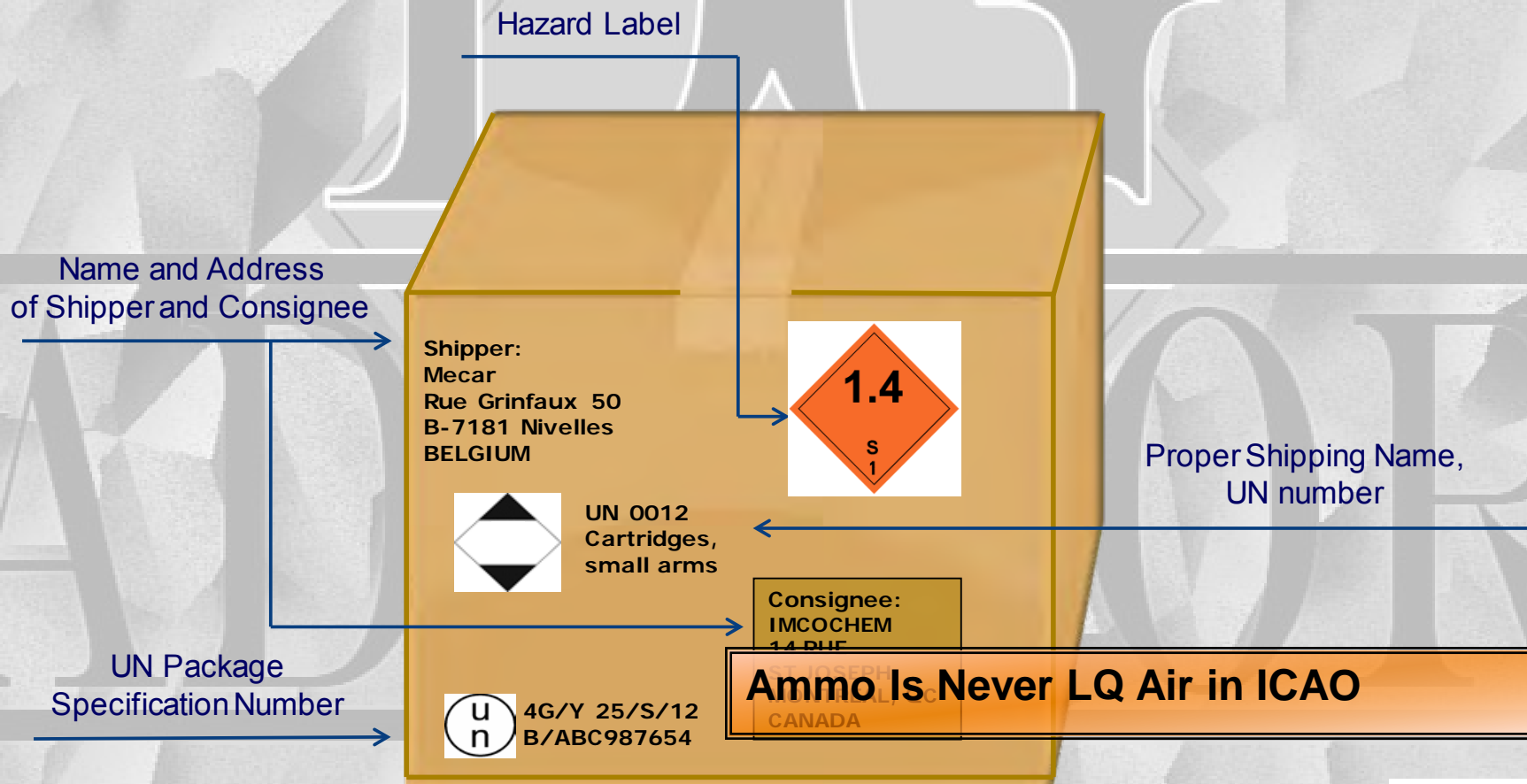
ICAO GUIDANCE (CONT'D)

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

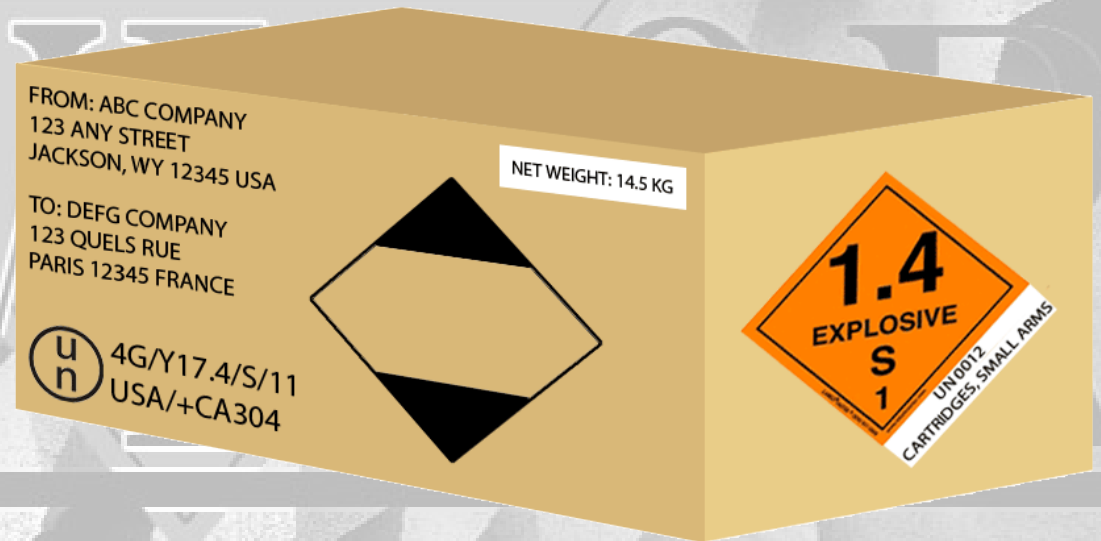


IATA GUIDANCE

2014 IATA Will Contain Similar Guidance Per Dangerous Goods Board Decision Sept 2012



2012



SAAMI GOES BACK TO UN

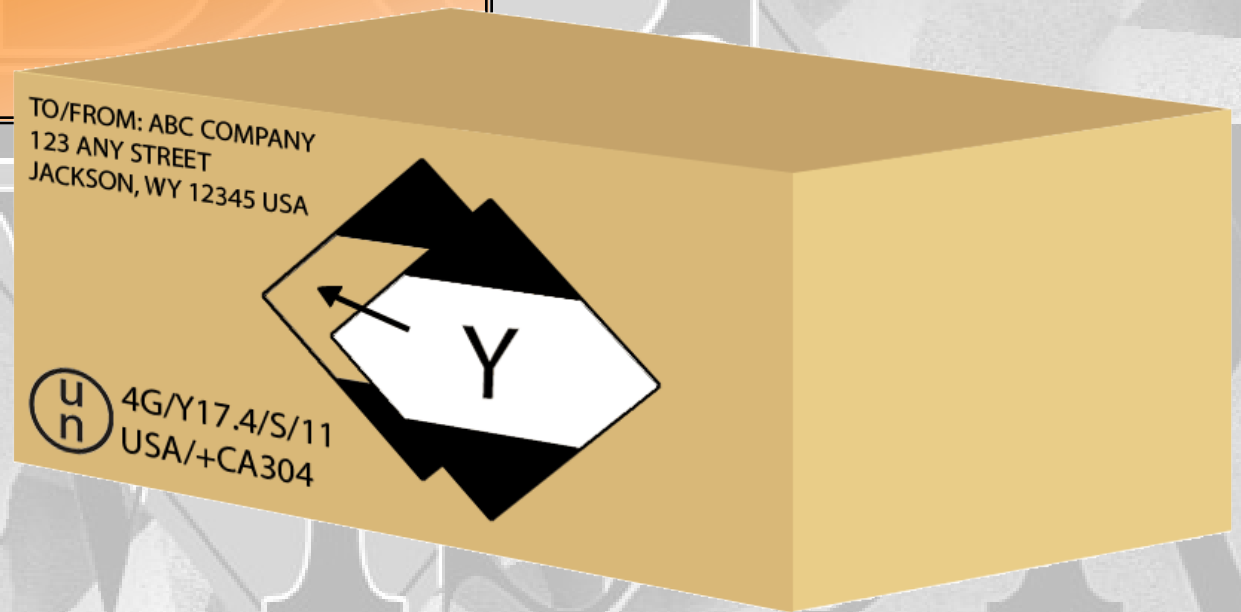
- UNMR 18TH Edition Will Contain New 3.4.10 And Include Previous Pictures In Guiding Principles
- ADR Expected To Follow in **2015**



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 804-0396 (Final Rule (Subset No. PFRM1) - 804-01) to Amend Appendix
F1, 2011.

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
1909 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
17.275X2(2)(b): "Accessories or articles not authorized as limited quantities by appendix
F1 - ... (B) Class I (explosives) and Class I (pyrotechnics) material."

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

- (1) Table 1 of that subject, Class I in "Excludes, list of 17.275" Does this mean
"Excludes, except see of 17.275?"
- (2) 17.275 provisions transportation in limited quantities apply to all modes, and
the notice specifically deals with air transport. There is no mention of
prohibiting limited quantities of accessories by air.

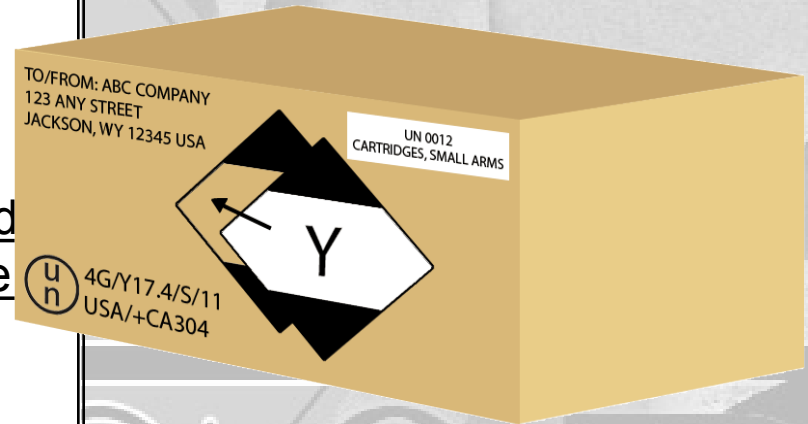
Therefore SAAMI's appeal is to modify 17.275X2(2)(b) to acknowledge that problems
submitted in limited quantities in 17.275 are allowed for air transport, and further
clarify them in Table 1.

SAAMI FILED WITH DOT ON 2/18/13. FOR MORE INFORMATION, CONTACT SAAMI AT 800-428-4286 OR 202-462-6800.

HM215L REVISION

§ 173.63 Packaging Exceptions Cont'd

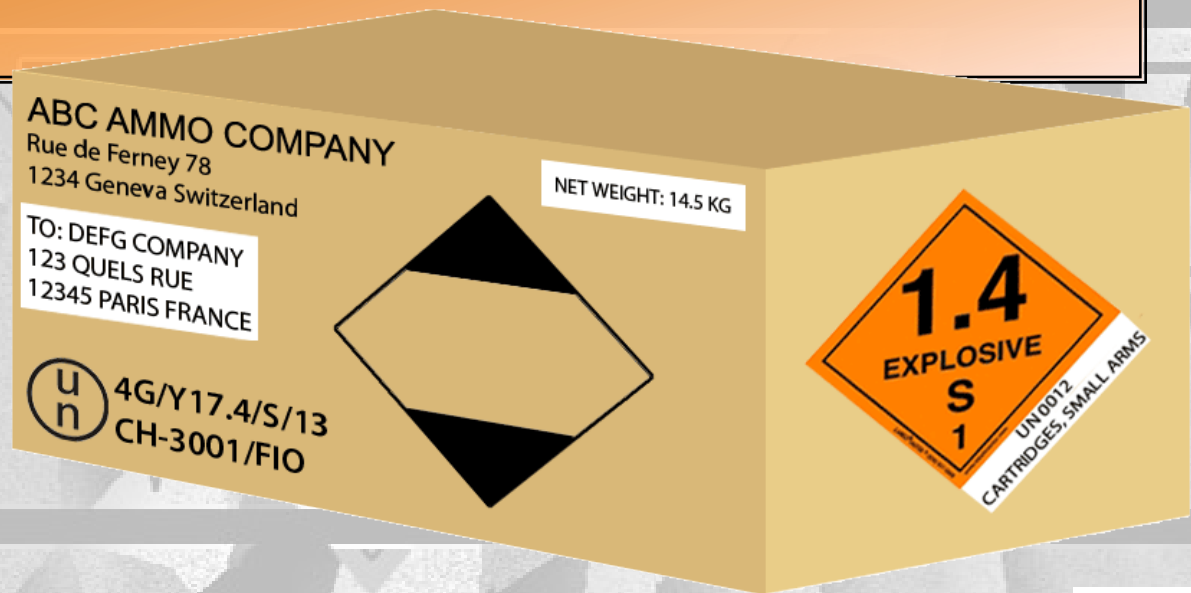
Packages containing such articles may be marked with either the marking prescribed in § 172.315(a) or (b) of this subchapter and offered for transportation and transported by any mode



- **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**



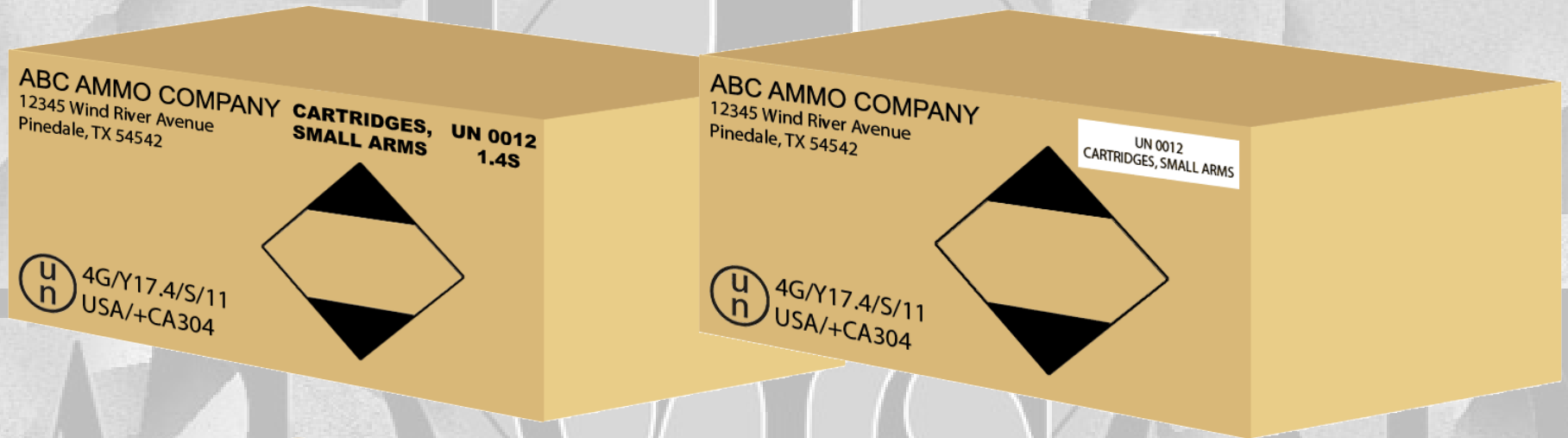
NEW IN HM215L: UN# AND PSN

§ 173.63 Packaging Exceptions Cont'd

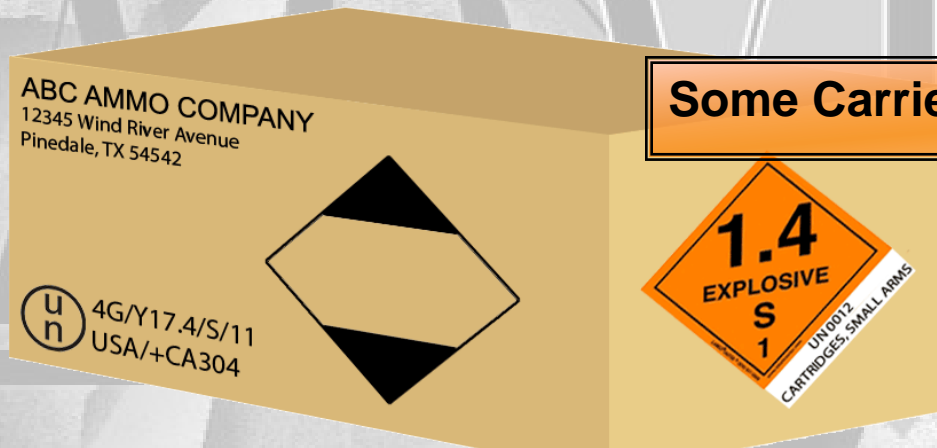
In addition, packages containing such articles offered for transportation by aircraft must be marked with the proper shipping name as prescribed in the § 172.101 Hazardous Materials Table of this subchapter.



UN# AND PSN SOLUTIONS FOR DOMESTIC AIR

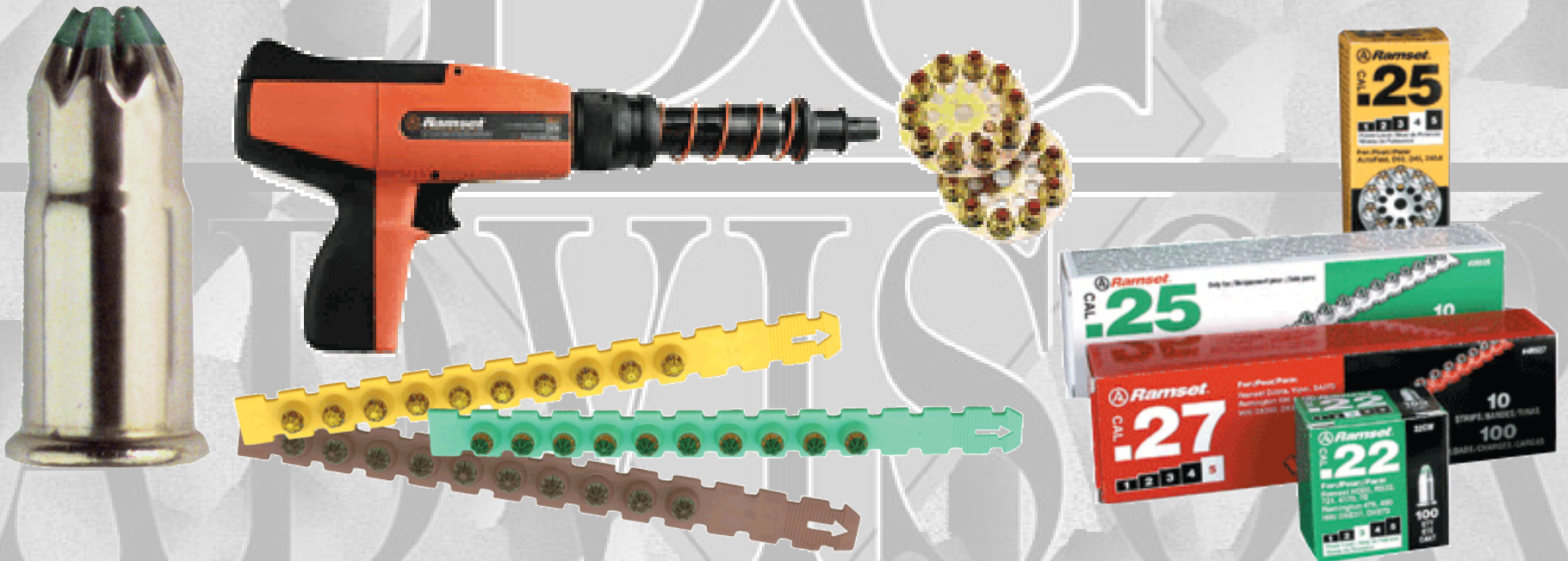


Some Carriers Stop 1.4S Labeled Boxes



BY THE WAY

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





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2013 LOGISTICS SEMINAR

POWER DEVICE CARTRIDGES

SAAMI[®]

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2013 LOGISTICS SEMINAR - Ammunition & Components -

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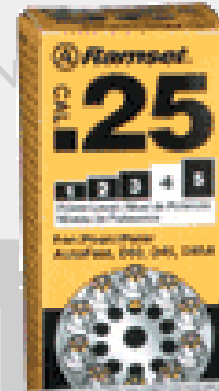
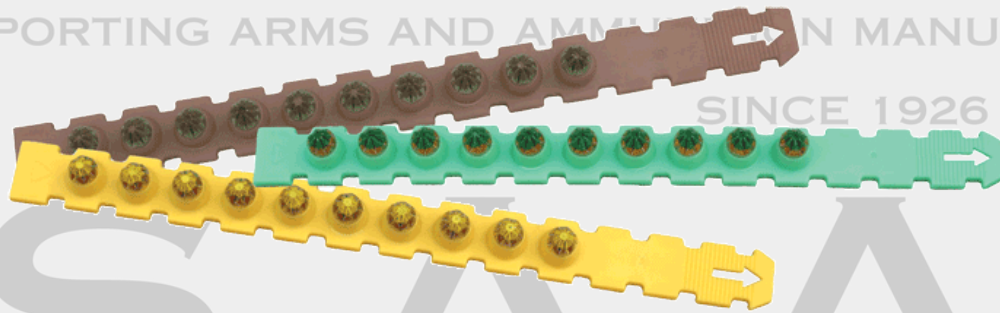
“POWER LOADS”

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

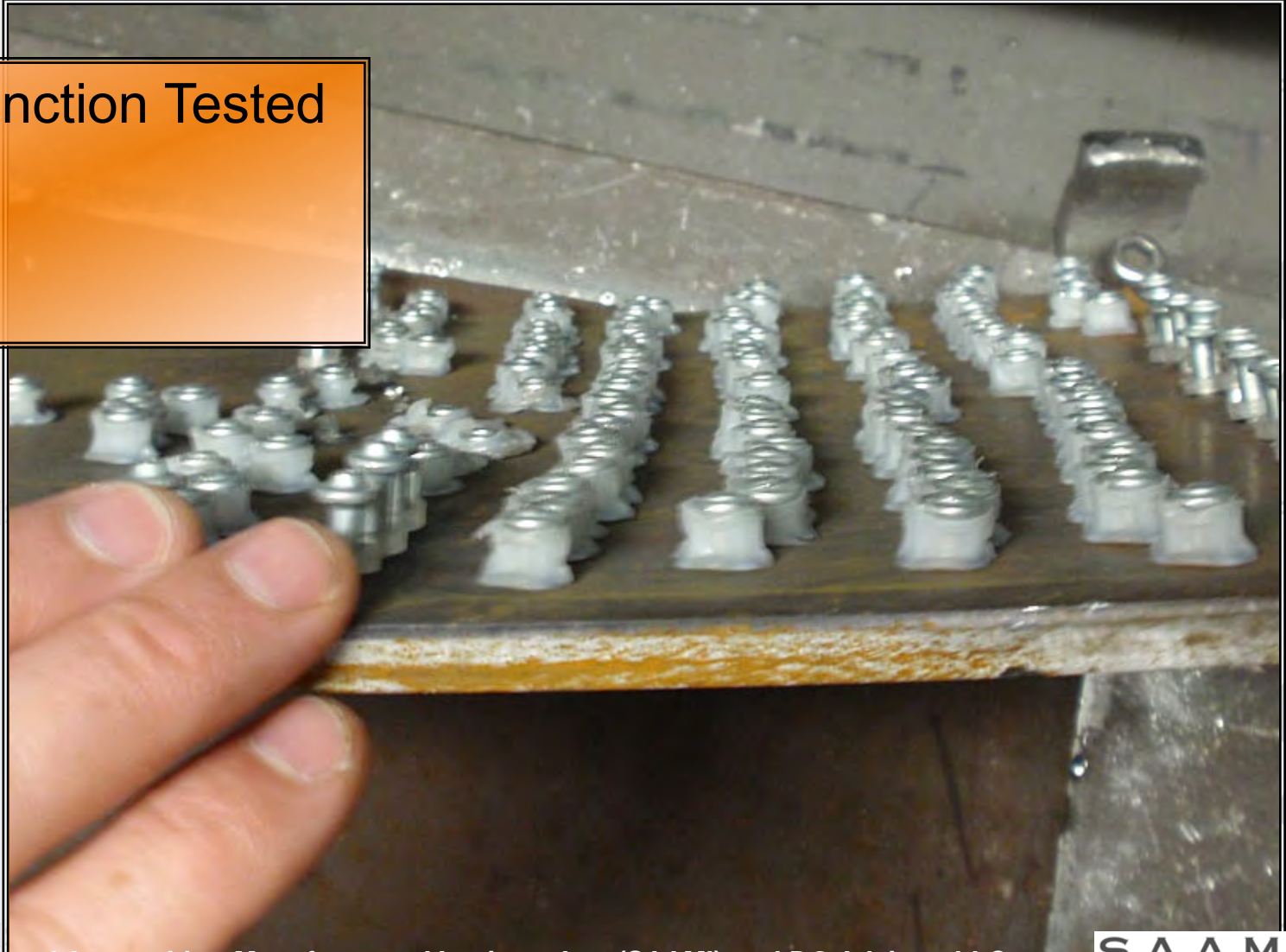
FASTENING STEEL TO STEEL

- Powerful
- Quick
- Dependable



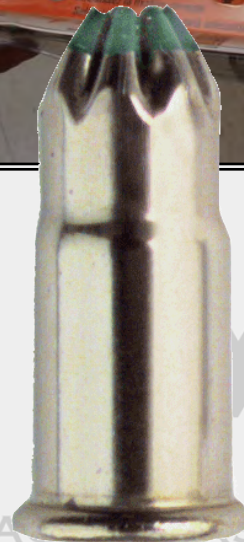
HIGH QUALITY CONTROL

- 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

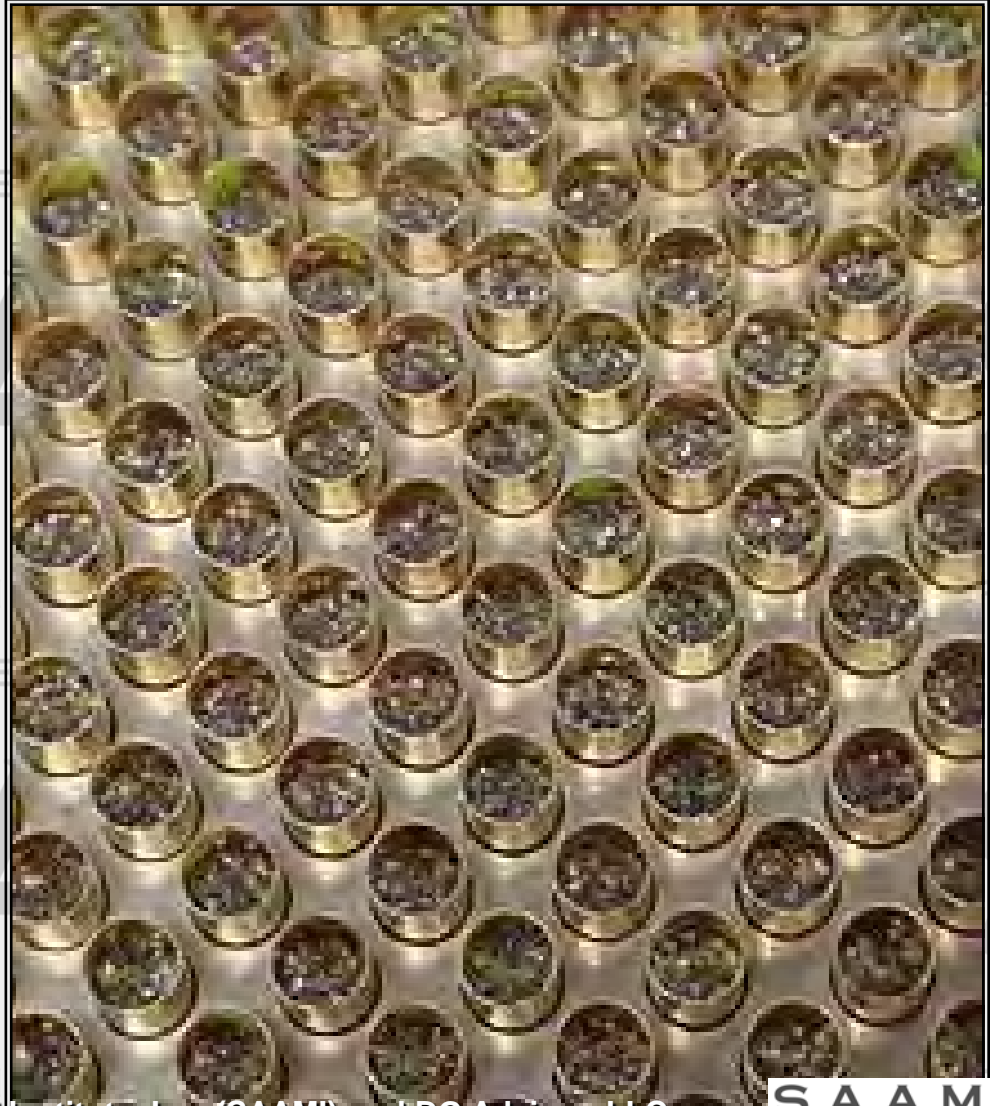
MANUFACTURING STEP 1: PRIMED CASES

- ❑ 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



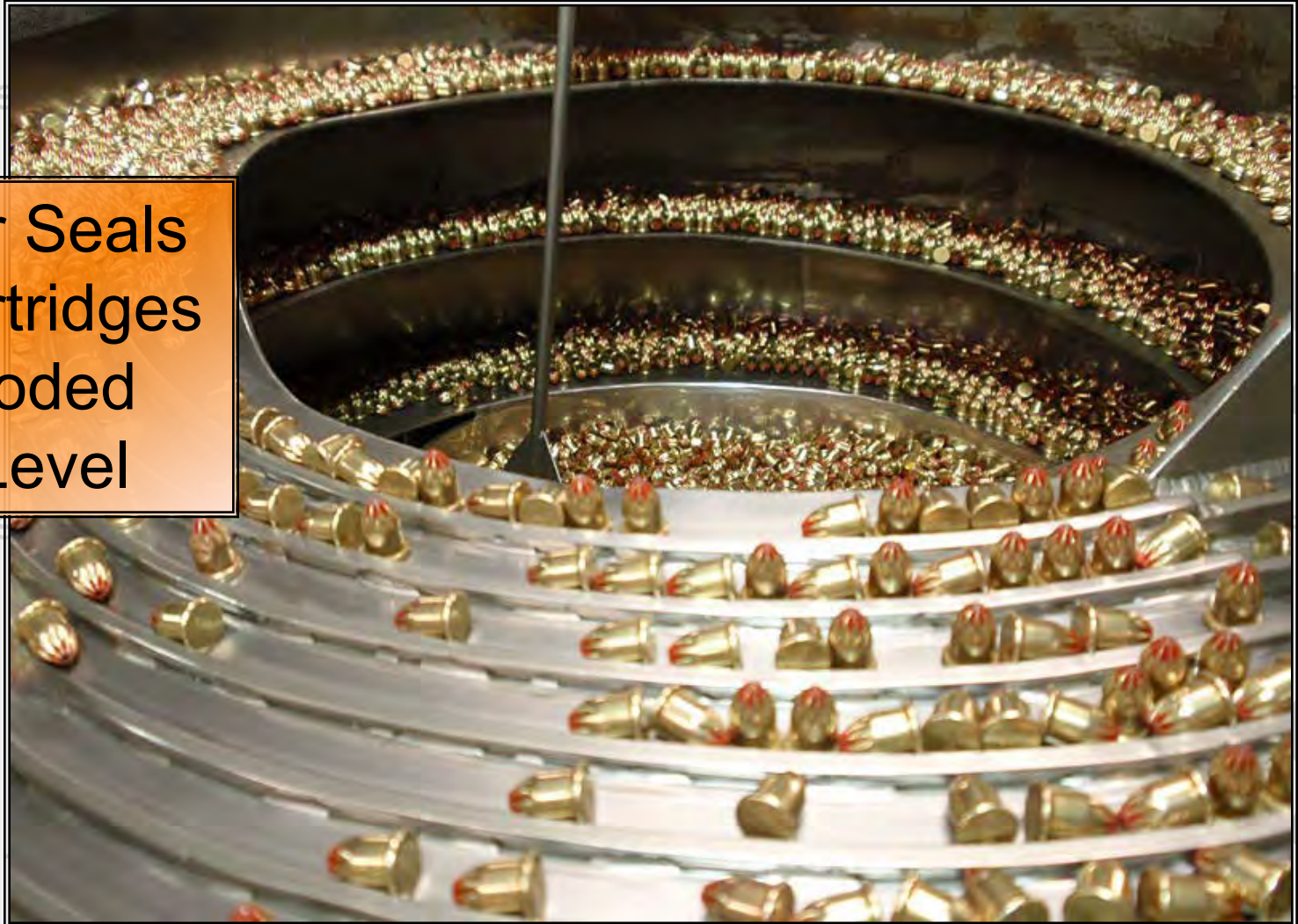
STEP 3: CRIMP

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



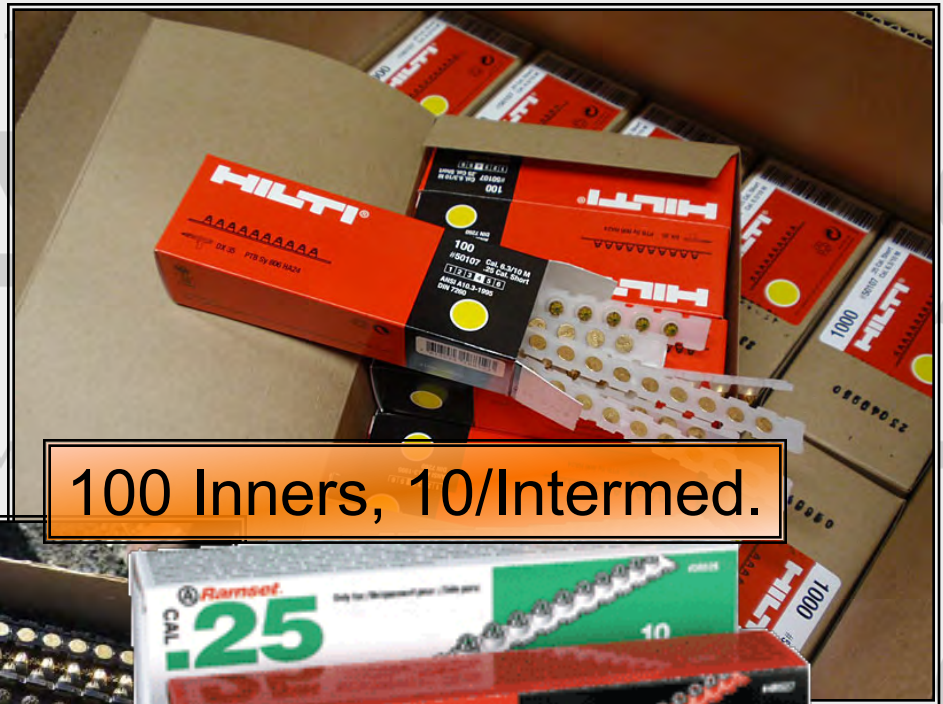
SA

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 descriptions and proper shipping names (2)	Hazard class or division (3)	Identification 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	
							Excep-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

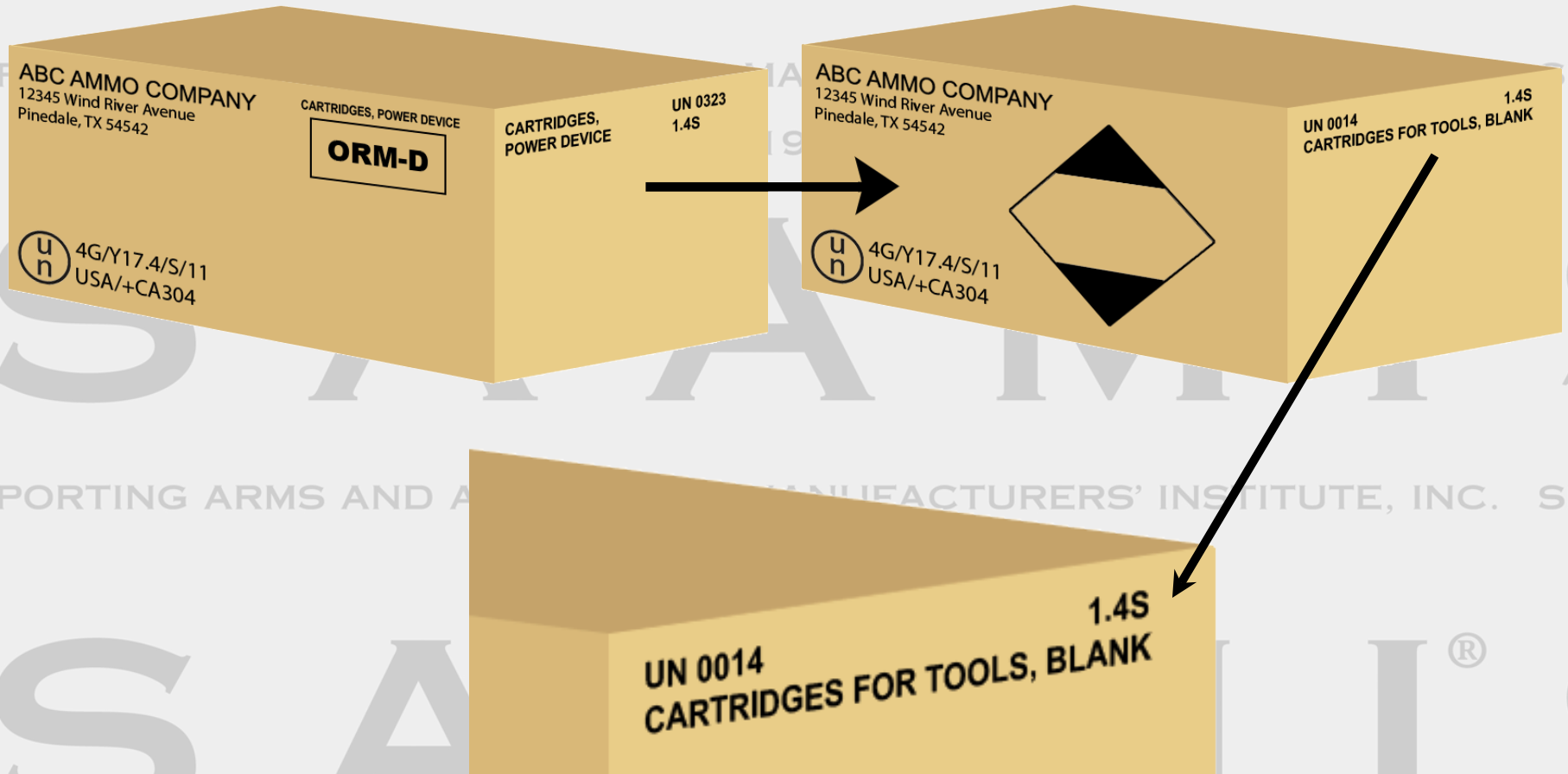
HM215L – 173.63(b)(2)

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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49 CFR

S A A M I®

SPORTING ARMS AND AMMUNITION MANUFACTURERS' INSTITUTE, INC.

SINCE 1926

SINCE 1926

2013 LOGISTICS SEMINAR
- Ammunition & Components –

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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

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 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 Swarth Street, SW
Washington, D.C. 20540

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:

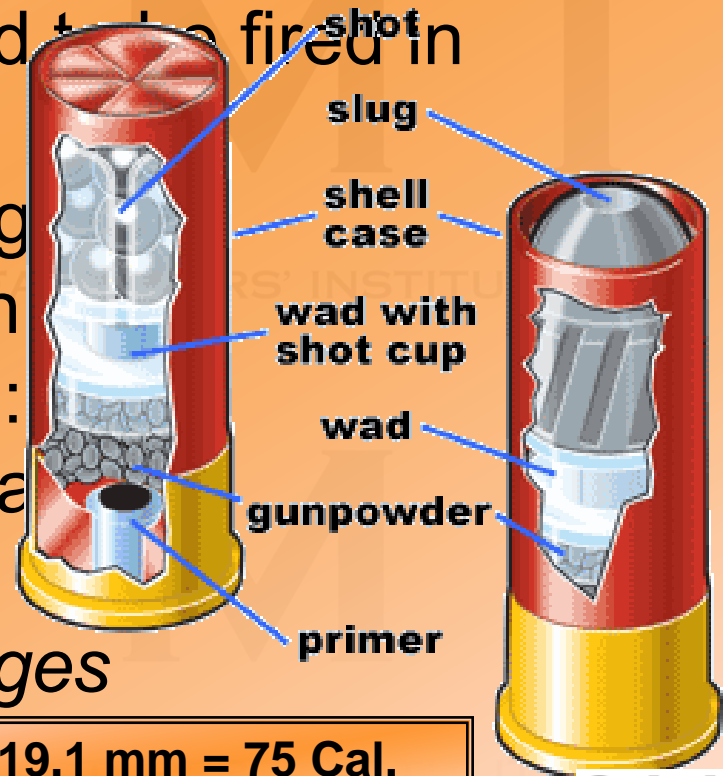
Bob Richard
Deputy Associate Administrator for
Hazardous Materials Safety

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 this 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
 - * ≤ 50 cal (12.7mm) or 8 gauge
 - * Inert or blank (no incendiary, exploding projectiles, etc.)

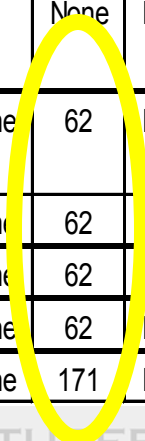


APPROVING AN EXPLOSIVE

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 explosion-protected containers intended for military use, with their means of initiation or with their means of initiation maintaining at least two effective means of initiation may be carried unpackaged if the containers 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.

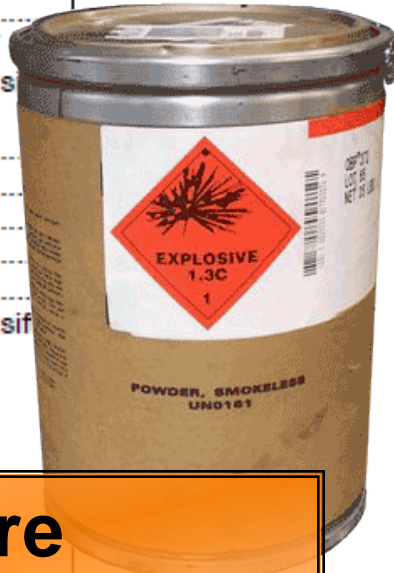
PACKING INSTRUCTIONS

Pipeline and Hazardous Materials Safety Admin., DOT

§ 173.62

TABLE OF PACKING METHODS—Continued

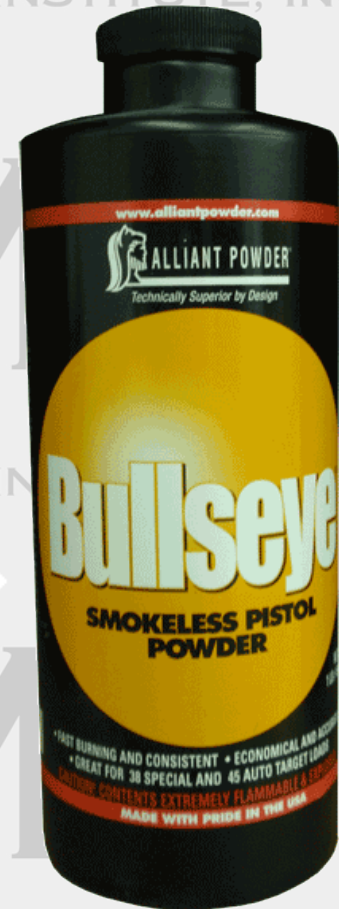
Packing instruction	Inner packagings	Intermediate packagings	Outer packagings
<p>114(b) This packing instruction applies to dry solids PARTICULAR PACKING REQUIREMENTS OR EX- CEPTIONS:</p> <ol style="list-style-type: none"> For UN 0077, 0132, 0234, 0235 and 0236, packages must be leak free For UN 0160 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 internal pressure from internal or external causes is prevented For UN 0160 and UN 0161, inner packagings are not required if drums are used as the outer packaging 	<p>Bags</p> <ul style="list-style-type: none"> paper, kraft plastics textile, sift-proof woven plastics, s proof. <p>Receptacles</p> <ul style="list-style-type: none"> fibreboard metal paper plastics woven plastics, sif proof. 	<p>Not necessary</p>	<p>Boxes.</p> <ul style="list-style-type: none"> natural wood, ordi- nary (4C1). natural wood, sift proof walls (4C2) plywood (4D). reconstituted wood (4F). fibreboard (4G). <p>Drums.</p> <ul style="list-style-type: none"> steel, removable head (1A2). aluminium, remov- able head (1B2) plywood (1D). fibre (1G). plastics, removable head (1H2)



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




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) (UN KV 209)

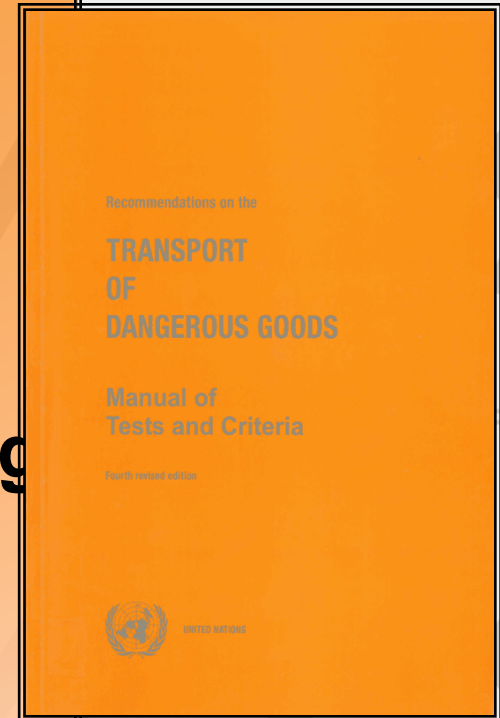
- Pick A Packaging, But Then You're Locked In
- N/A For Self-Classified Ammo

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(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 ≤ 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

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 Cartridges, small arms, blank	1.4S	UN0014	I	None	-	63
	Cartridges for weapons, inert projectile or Cartridges, small arms	1.4S	UN0012	I	None	-	63
D	Cartridges, small arms	ORM-D		-	None	-	63
D	Cartridges, power device (<i>used to project fastening devices</i>)	ORM-D		-	None	-	63
	Cases, cartridge, empty with primer	1.4S	UN0055	II	1.4S	50	None
	Powder, smokeless	1.3C	UN0161	II	1.3C	-	None
	Primers, cap type	1.4S	UN0044	I	None	-	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



- 1.4B I
- Appr

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

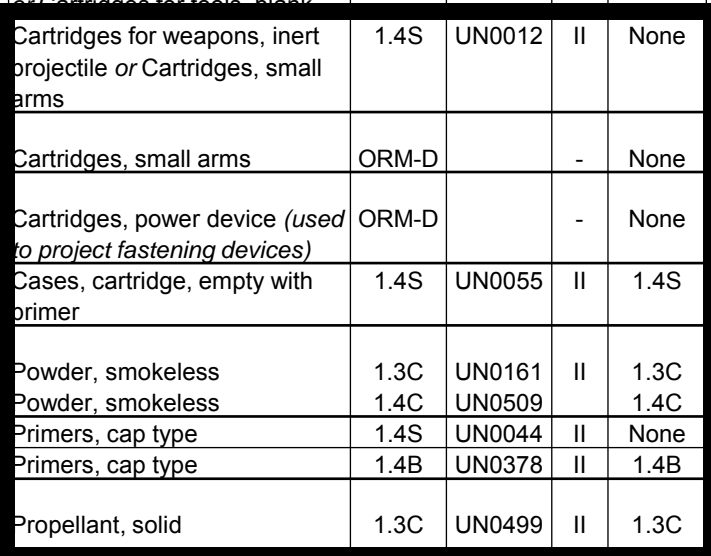
(GVWR)



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)		NET EXPLOSIVE WT		1 lbs	
						GRAND TOTAL			

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"

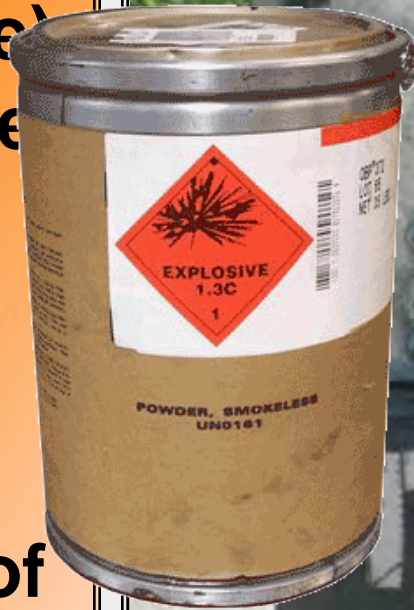
LIMITED QUANTITIES

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 ₍₄₎	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 ₍₄₎	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



SPORTING ARMS AND AMMUNITION MANUFACTURERS' INSTITUTE, INC. SPO

SINCE 1926

S A A M I[®]

SPORTING ARMS AND AMMUNITION MANUFACTURERS' INSTITUTE, INC.

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