



DANGEROUS GOODS SYMPOSIUM 2019

LABELMASTER®

SOFTWARE PRODUCTS SERVICES

Hazardous Materials Transport Requirements In China

TERRY GUO, ***DGSA, CDGP***
9/5/2019 Chicago, IL



1

**HAZMAT Transportation
Regulatory System in China**

2

**Regulations affected by Different
Transportation Modes**

3

**Special Practices on Transport
Hazmat in China**



01

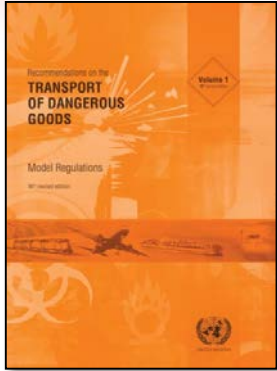
HAZMAT Transportation Regulatory System in China

- **Legislation Structure**
- **Hazmat Regulations**
- **HAZMAT Classification**
- **Dangerous Goods List**



危险品运输法规 UN Dangerous Goods Transport Regulations

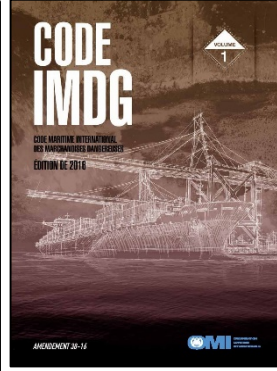
UN Orange Book



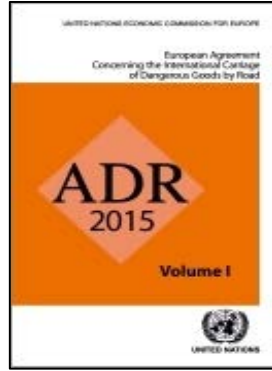
ICAO



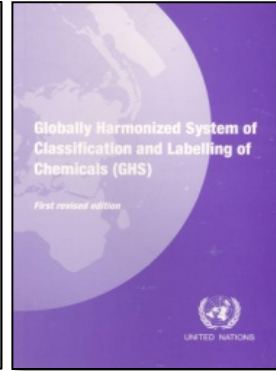
IMDG



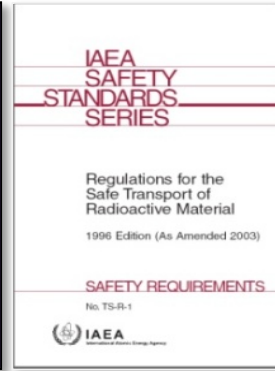
ADR



GHS



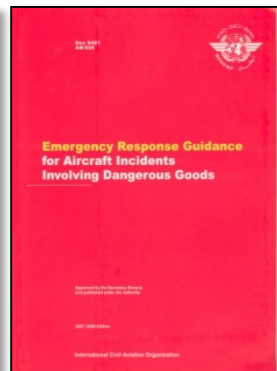
IAEA



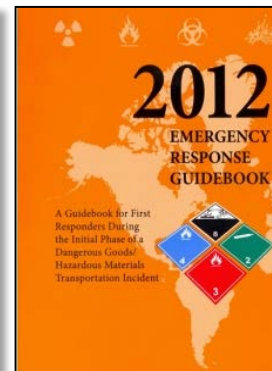
IATA



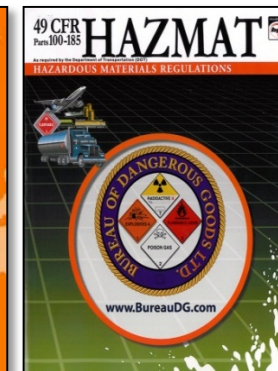
RED BOOK
ICAO



NA/ERG



49 CFR



CAAC/276



Global Harmonization



HAZMAT Transportation Regulatory System in China

The Structure of Chinese Laws and Regulations

- **Level One:**

LAW: legislated by People's Congress - Constitution

- **Level Two:**

Administrative Regulation: legislated by State Council - Decree 591

- **Level Three:**

Regulations, Ministry - Order 42 MOT; Order 7 MEP;

- **Level Four:**

Standards - GB12268; JT/T 617.1



The Structure of Chinese Laws and Regulations

China's Standards Structures

1. National Standards

GB, major ways on adapting International regulations

2. Ministerial Standards (Recommended: JT/T 617)

3. Industrial Standards (Industrial Associations)

4. Enterprise Standards



HAZMAT Transportation Regulatory System in China

The Structure of Chinese Laws and Regulations

Hazardous Chemicals production and transportation

— State Council Decree 591



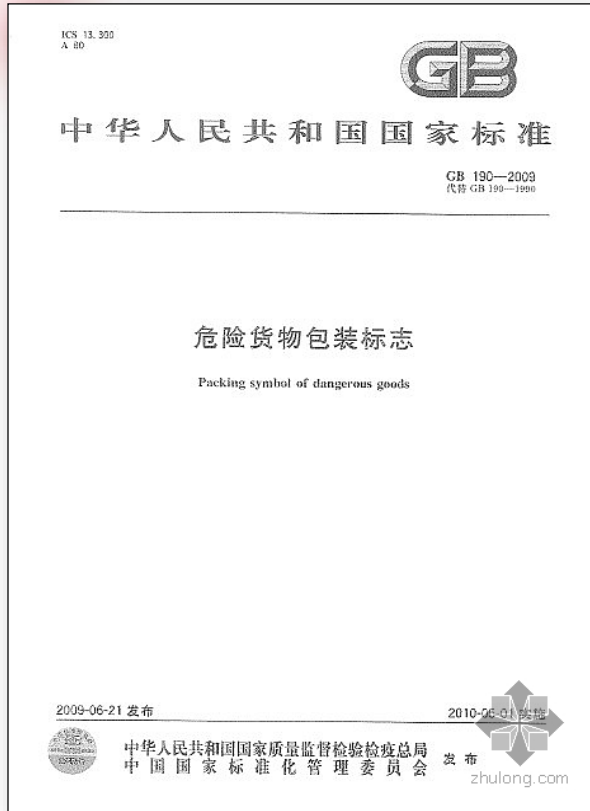
- Different government agency will issue its own measures to implement Decree 591
- “Order” (MEP; CIQ etc..)
- “National Standards” (MOT)
- Hazardous Chemicals List used (2004)



HAZMAT Transportation Regulatory System in China

The Structure of Chinese Laws and Regulations

Hazardous Chemicals **TRANSPORTATION**



- GB12268-2012 (Dangerous Goods List)
- GB6944-2012 (Definition)
- GB28644.1-2012 (EQ)
- GB28644.2-2012 (LQ)

Transportation is what we concentrate on ...



HAZMAT Transportation Regulatory System in China

The Structure of Chinese Laws and Regulations

Classification /MSDS	Ministry of Emergency Management / former SAWS (State Administration of Work Safety)
Air/Water/Road/Rail	Ministry of Transportation / CAAC, MSA, Road Service and MRA
Class 6.2	National Health Commission / CDC (Centers for Disease Control and Prevention)
Class 7	Ministry of Ecology and Environment / NNSA (National Nuclear Safety Administration)
DG/UN Packaging	China Customs / CIQ (China Inspection and Quarantine)



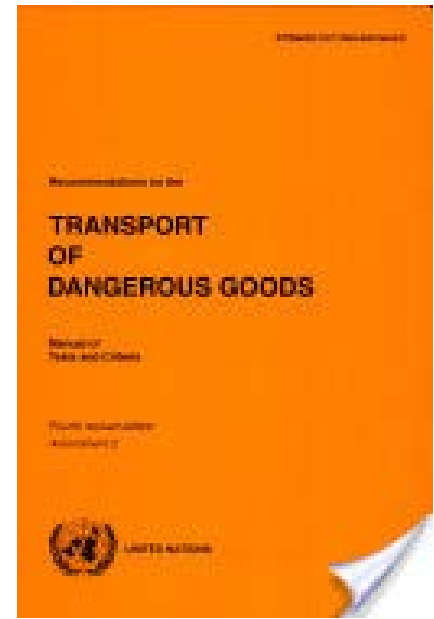
Transportation of Hazardous Materials



HAZMAT Transportation Regulatory System in China

Classes are defined by their Hazards

- | | |
|--------------------------|-------------------------------|
| ■ Class 1: (6 Divisions) | Explosives |
| ■ Class 2: (3 Divisions) | Gases |
| ■ Class 3: (No Division) | Flammable Liquids |
| ■ Class 4: (3 Divisions) | Flammable Solids |
| ■ Class 5: (2 Divisions) | Oxidizers & Organic Peroxides |
| ■ Class 6: (2 Divisions) | Toxic & Infectious Substances |
| ■ Class 7: (No Division) | Radioactive Material |
| ■ Class 8: (No Division) | Corrosives |
| ■ Class 9: (No Division) | Misc. Dangerous Goods |



Packing Groups (PG)

- PG I – high danger
- PG II – medium danger
- PG III – low danger



The Structure of Chinese Laws and Regulations

Domestically used Dangerous Chemicals List

- Dangerous Chemicals List (2015), Total 2828 entries, mainly based on CAS. Number; no n.o.s. and list by Chemical names in Chinese; (Warehousing, DG 3PL Trucks)

Transportation DGL and based on...

- GB 12268 – 2012 ---- UN Orange Book (Ed. 16)
- Air/Ocean: MH DG List, from ICAO/TI, 2019 (Ed. 20)
- Road: JT/T 617.3: ADR/2015 (UN Orange Book Ed. 19)



02

Regulations affected by Different Transport Modes

- Air
- Road
- UN Packaging
- Water
- Rail



Shipping Hazmat in China

Transportation Modes

“Surface Transportation is the movement of people or goods by road, train, or ship, rather than by plane: The development of new links between the airport and surface transport has been slower than expected.”

Air

Ocean/Inland Water

Ground

Railway

- Pipeline
- Postal



Regulations affected by Different Transport Modes



Shipping Hazmat in China

Transportation Modes

International Harmonized:

- By Air
- Ocean



More Domestic concerned:

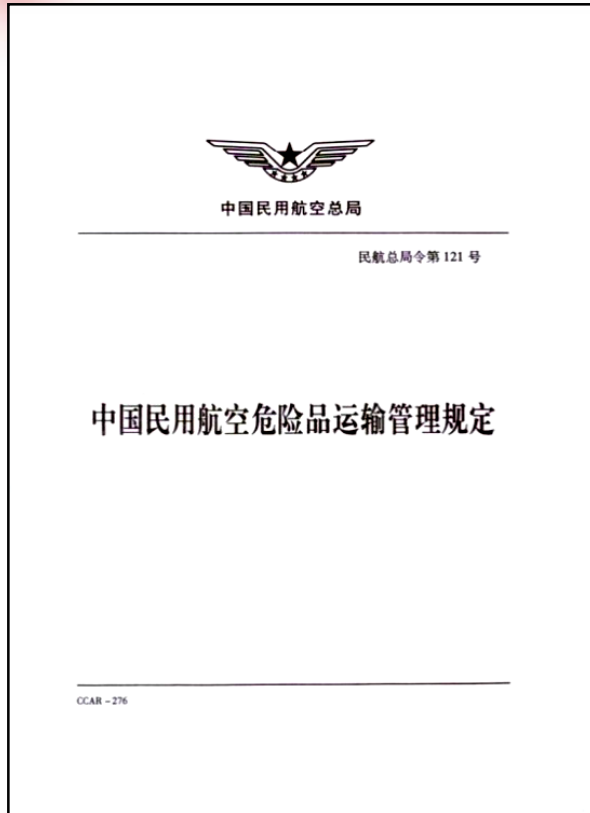
- Ground
- Railway
- Inland Water
- DG Packaging



Regulations affected by Different Transport Modes



Shipping Hazmat **by Air** in China



- Regulation Title: CCAR-276-R1
- Source: ICAO/TI and concerned China regulations
- Apply to the aircraft: depart, transit, overflown and arrival (China)
- Started: Sept. 1st, 2004, issued by Flight Standards Dept./CAAC
- also known as MOT Order 42, started April 2016
- Currently, administrated by Air Transport Dept./CAAC and working on R2, expected come out Sept., 2019



Regulations affected by Different Transport Modes



Shipping Hazmat by Air in China



Airline Practices (Operation):

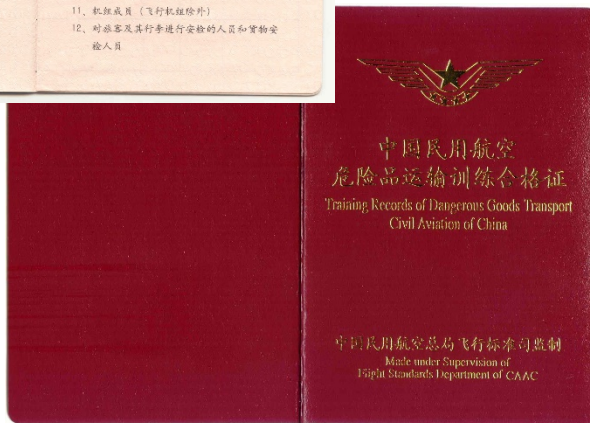
- ICAO/IATA Rules
- CAAC requirements
- IATA Members
- Starts LQ/EQ



Regulations affected by Different Transport Modes



Shipping Hazmat by Air in China



- International practice (ICAO/IATA)
- Issue ministry standards (e.g. MH/T 1020-2013)
- Training Requirement:
 - training agency requirements;
 - Photo ID training certificate
 - Contents: Category 6 only to acceptance people of airport and airline
 - IATA Training record could be a Plus



Regulations affected by Different Transport Modes



Shipping Hazmat **by Water** in China



- Member of International Maritime Organization
- Maritime Safety Administration (Local/National)
- International: IMDG/IMSBC
- IBC and Container certified by Class Society
- Domestic: MOT Regulations (e.g. Hyper-Toxic List (335) prohibit for Inland Water)
- Ports have more requirements on warehousing



Regulations affected by Different Transport Modes



Shipping Hazmat by Road in China



中华人民共和国
道路运输条例

道路危险货物运输管理规定

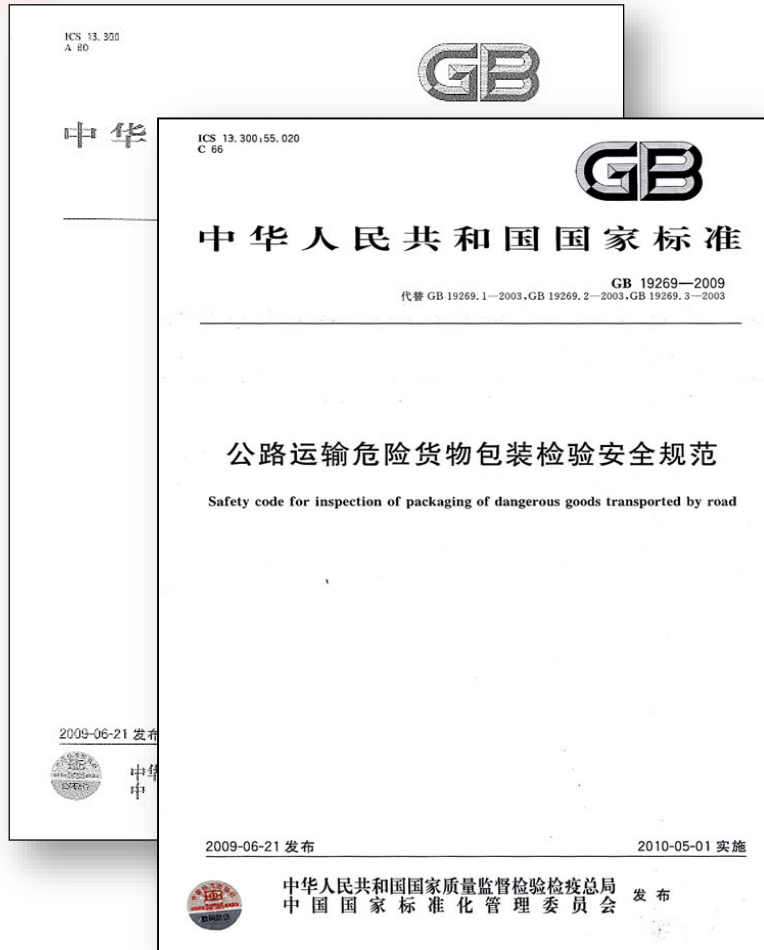
中华人民共和国交通部

人民交通出版社
China Communications Press

- Mainly for Domestic Operation
- Road/Tunnel/Bridge have more requirements
- Most shipper using 3PL service
- GB12268 (2012) / TDG (Ed. 16)
- Hazardous Chemical List (2015 ver.)



Shipping Hazmat by Road in China

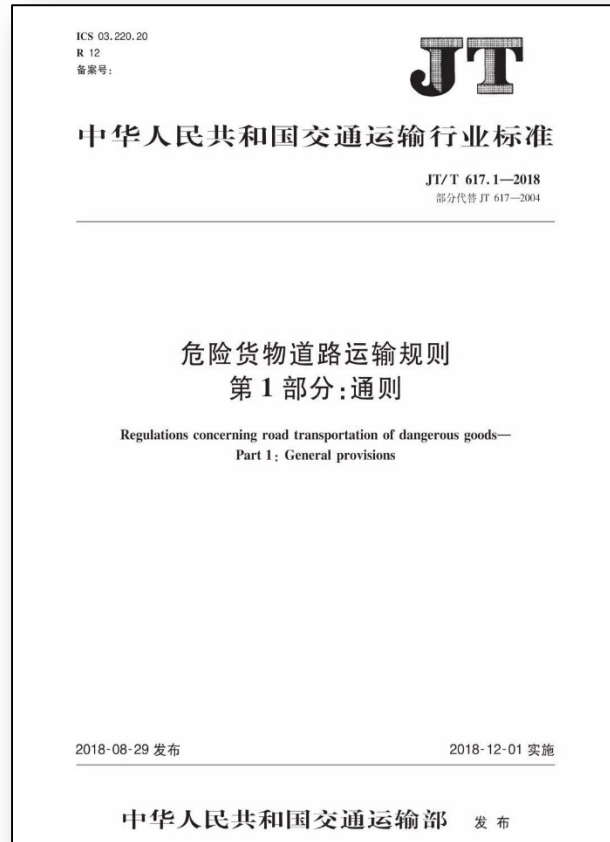


Road Transport DG Packaging

- GB190-2009 / GB19269-2009
- Inspection of DG Packaging by Road
- Mark/Label Requirements for Hazardous Materials
- Ref. UN Orange Book 15 Ed.
- Some size differences



Shipping Hazmat **by Road** in China



New approach on Road DG Transport

- **JT/T 617.1-7**, published on 12/01/2018
- ADR/ 2015 (no Chapter 6 and 9)
- Measure from MOT, targeted 9/2019
- Guide on EQ/LQ



Shipping Hazmat **by Rail** in China



- Only for Domestic Operation
- TN Code: using list from old CN number
- Packaging, Freight/Bulk Container must meet the standards of former Ministry of Railway (old version)



Regulations affected by Different Transport Modes



Hazmat Packaging Requirement in China



Customs/CIQ DG Packaging Certification

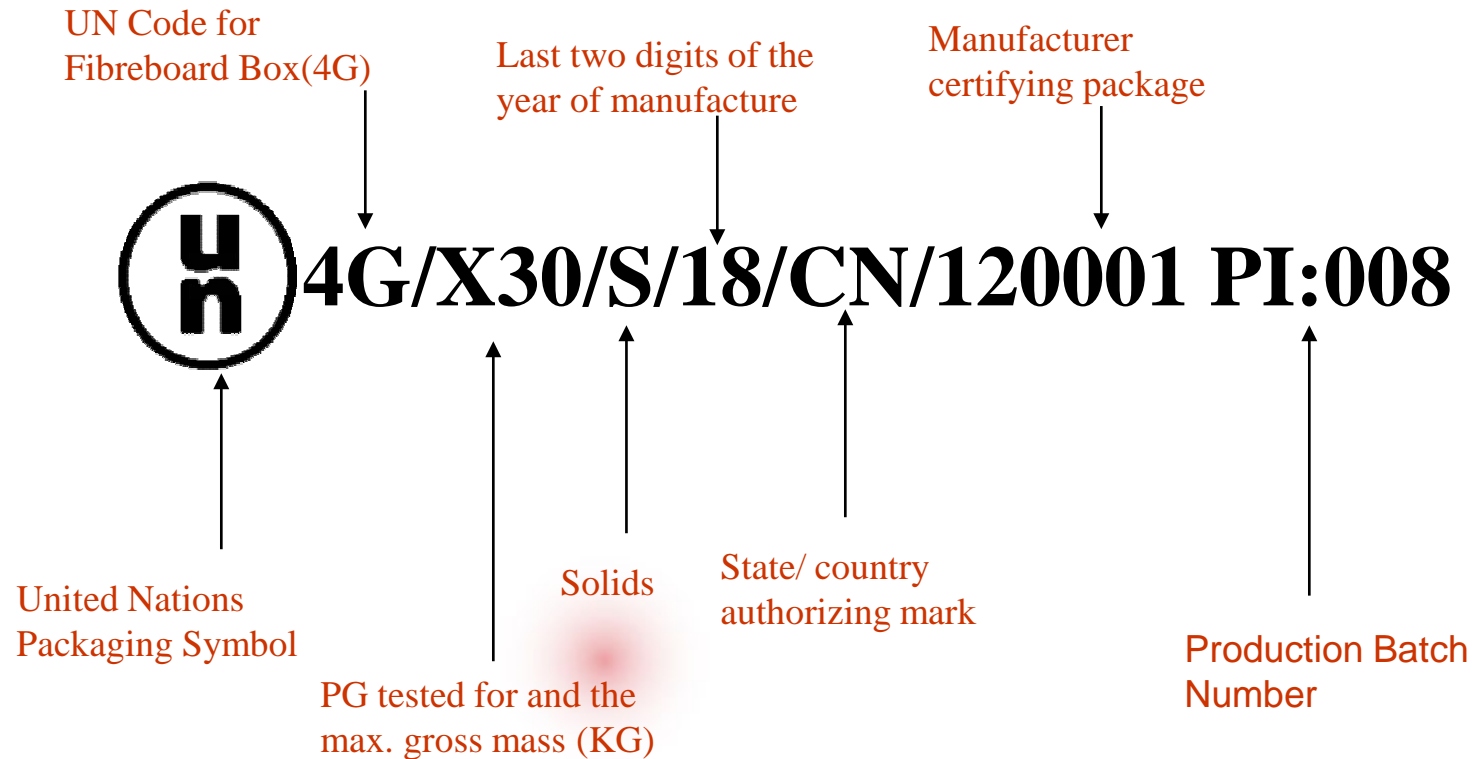
- mainly only issue UN packaging Certificate
- Packaging Performance Certificate
- Packaging Usage Certificate
- Limitations on LQ/EQ and strong outer packaging



Regulations affected by Different Transport Modes



UN Specification Packaging Marking



Regulations affected by Different Transport Modes



Hazmat Packaging Requirement in China



中华人民共和国出入境检验检疫
出境货物运输包装性能检验结果单

编号: 120000304007100

申请人	天津市北辰区中铁红光包装厂							
包装容器名称及规格	塑料编织袋 50X80	包装容器标记及批号	51H3Y26/S04 CN/120023 PI012					
包装容器数量	10000	生产日期	自 2004 年 12 月 1 日至 2004 年 12 月 2 日					
拟装货物名称	化工品	状态	固态					
		比重	***					
检验依据	《国际海运危险货物规则》							
	拟装货物类别 <input type="checkbox"/> 危险货物 <input checked="" type="checkbox"/> 一般货物							
	联合国编号 ***							
	运输方式 海运							
检验结果	按《国际海运危险货物规则》对样品进行性能测试的结果表明: 该包装容器符合 II 类包装要求。 签字: [Signature] 日期: 2004 年 12 月 23 日							
包装使用人								
本单有效期	截止于 2005 年 12 月 22 日							
分批使用核销	日期	使用数量	结余数量	核销人	日期	使用数量	结余数量	核销人
	22	1600	5000	[Signature]				

说明: 1. 当合同或信用证要求包装检验证书时, 可凭本结果单向出境所在地检验检疫机关申请检验证书。
2. 包装容器使用人向检验检疫机关申请包装使用鉴定时, 须将本结果单交检验检疫机关核实。
(2000.1.11)

Performance Certificate

- Water Transport DG Packaging Performance Safety Inspection
GB19270.1, GB/19270.2 (by Water)
- Air Transport DG Packaging Performance Safety Inspection
GB/19433.1; GB/19433.2 (by Air)



Regulations affected by Different Transport Modes



Hazmat Packaging Requirement in China



Usage Certificate

中华人民共和国天津出入境检验检疫局证稿
出境危险货物运输包装使用鉴定结果单

编号: 12060030300006

申请人	天津华士化工有限公司		
使用人	天津华士化工有限公司		
包装容器名称及规格	开口钢桶 200L		
包装容器类别	UN 1A2/Y230/S/03	包装容器标记及批号	CN/120005 P1012
包装容器性能检验结果单号	120600304002126		
运输方式	海运		
危险货物名称 (中文)	对硝基苯胺	危险货物类别	6.1
危险货物名称 (英文)		联合国编号	1661
危险货物状态	固态	危险货物密度	**
报检包件数量	80	单件容积	
危险货物重量日期	2004年8月25日	单件毛重	103-千克
		单件净重	140-千克
检验检疫	<<国际海运危险货物规则>>		
鉴定结果	上述危险货物所使用的包装容器,经抽样鉴定,其适用性及使用方法符合<<国际海运危险货物规则>>的要求		
签字:	日期:	2004年9月1日	
本结果单有效期	截止于 2005年 月 日		
备注			

- Water Transport DG Packaging Usage Safety Inspection
GB19270.1, GB/19270.3 (by Water)

- Air Transport DG Packaging Usage Safety Inspection
GB/19433.1; GB/19433.3 (by Air)



Regulations affected by Different Transport Modes



UN Specification Packaging



6.0.3.4 Type of Packaging

- 1 – Drum
- 2 – Reserved
- 3 – Jerrican
- 4 – Box
- 5 – Bag
- 6 – Composite Packaging

6.0.3.5 Material of Construction

- A - Steel
- B - Aluminum
- C - Natural Wood
- D - Plywood
- F - Reconstituted Wood
- G - Fiberboard
- H - Plastic material
- L - Textile
- M - Paper, multi-wall
- N - Metal (other than steel or aluminum)
- P - Glass, porcelain or stoneware (not used in these regulations)

X - for Packing Groups I, II, III
Y - for Packing Groups II, III
Z - for Packing Group III



Special Practices on Transport Hazmat in China



Hazmat Packaging Requirement in China



6.3.3
Drop Test



6.3.6
Stacking
Strength



6.3.5
Internal
Pressure
(Hydraulic)



UN Packing Performance Tests (6.3)



Regulations affected by Different Transport Modes



03

Some Special Practices on Transport Hazmat in China

- **CSTCG**
- **DG Packaging**
- **Competent Authority Approval**
- **Excepted/Limited Quantities**



Competent Authority Approval



- Shipper submit DG shipments to airlines through Freight Forwarder
- Exemption/Approval only issue to Carrier (e.g. A88: Prototype Li-Battery)
- Airlines may not accept MSDS, only Testing Reports (CSTCG) from labs airlines contracted.

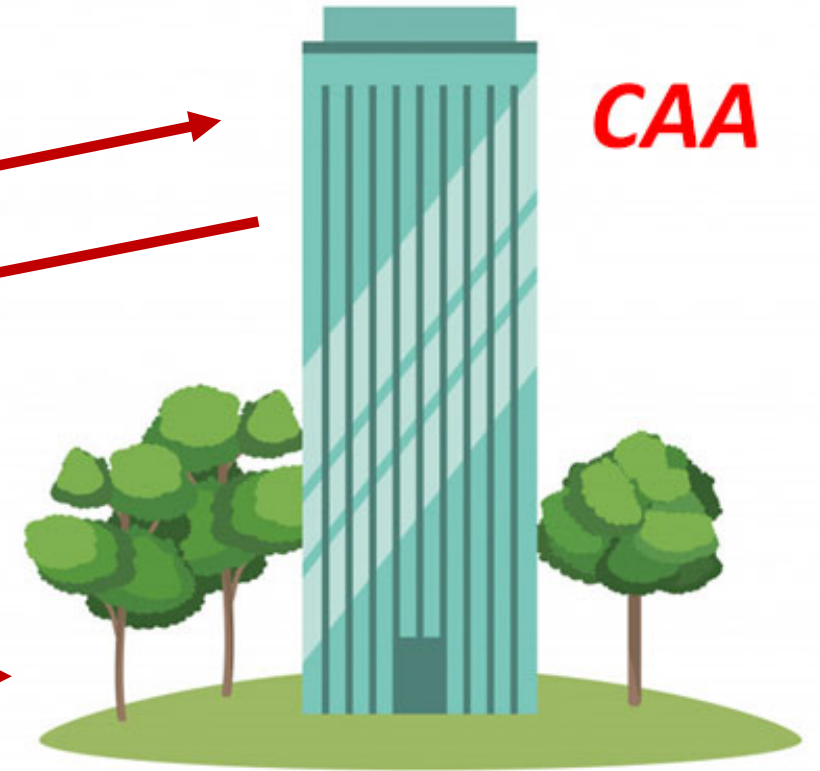
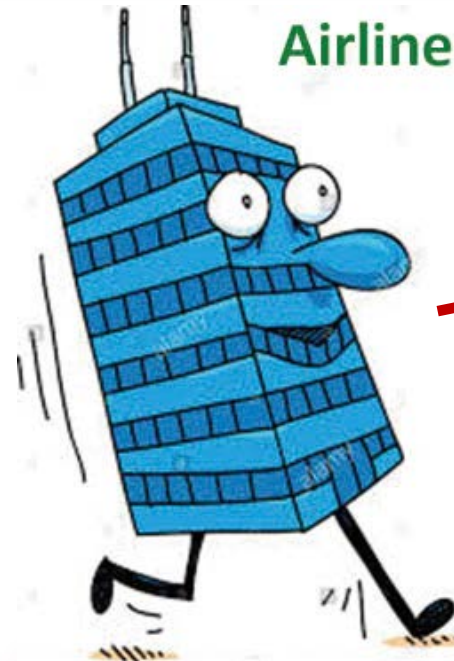


Competent Authority Approval



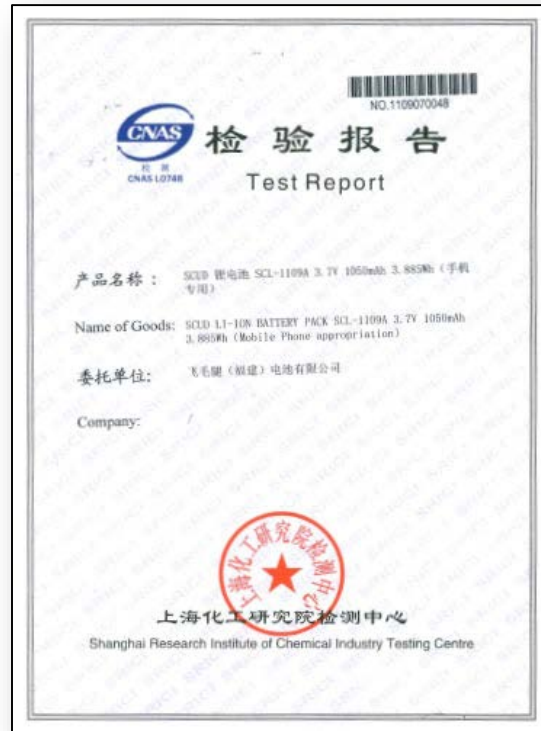
CA APPROVALS

only issue to Carriers/Airline



Special Practices on Transport Hazmat in China

DG Classification Testing(CSTCG)



Airline Practices on DG classification

- Certificate of **S**afe **T**ransport **C**hemical **G**oods
- Based on UN Manual of Test and Criteria
- MSDS/SDS (some airline)
- Testing Centers contracted by airlines/airports
- Airports may need CSTCG

Ship-lines starting request CSTCG



Special Practices on Transport Hazmat in China



Hazmat Packaging Requirement in China



You may need CIQ's CSTCG from (SHA, TJN)

- Applying DG packaging certifications
- Custom requirements
- Airlines/Airport
- Ship lines/Ports



Special Practices on Transport Hazmat in China



Hazmat Packaging Requirement in China



AQSIQ/CIQ Order 30 (Import/Export)

- The Customs worked with CIQ
- MSDS (Chinese language required.) for Import/Export
- DG packaging Documentation
- DG Classification/Testing
- DG Declaration for Import/Export



Special Practices on Transport Hazmat in China



Hazmat Packaging Requirement in China



CIQ DG Packaging Certification

- mainly only issue UN packaging Certificate
- Packaging Performance Certificate
- Packaging Usage Certificate
- Limitations on LQ/EQ and strong outer packaging



Special Practices on Transport Hazmat in China



Hazmat Packaging Requirement in China



Custom/CIQ Certificate for Non-Bulk Packaging



Single Packaging



Combination Packaging



Special Operation on 4GV
by different cities



Hazmat Packaging Requirement in China



CIQ UN mark requirement:

- “Permanent” UN Mark on drums only accept “embossed” or “Inkjet Printed”. Label UN Mark not accepted any more.
- For international UN packaging to be used in China: Original Test report or testing it in China



Special Practices on Transport Hazmat in China

Hazmat Packaging Requirement in China



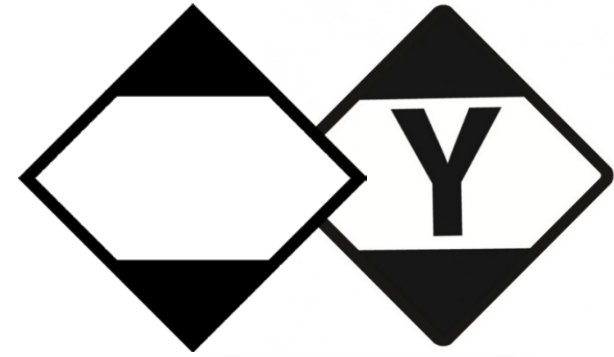
CIQ UN packaging requirement:

- Packaging certificates only permits on UN mark on one packaging.
- State of origin administrated for UN packaging
- UN packaging in transit status:
- Free Trade zone vs. inside the country



Special Practices on Transport Hazmat in China

Excepted/Limited Quantity in China



	Issues related....
Packaging	Custom/CIQ not issue certificate
Air	Regulation permitted, packaging still an issue. Some airlines permitted on individual case
Vessel	Only Import/Export shipments
Road	Not accept yet until JT/T 617 implemented
Postal	Not accepted yet



Special Practices on Transport Hazmat in China



Institute of Hazardous Materials Management
美国危险货物管理研究院 (IHMM)



QUESTIONS?

