

TPM²⁴

by S&P Global

Three “C”s of HazMat

Managing Dangerous Goods Shipments

Holly Pearce

C+D Trojan

March 4, 2024

Who remembers these news reports?



My Background

- Consumer Packaged Goods firms that manufacture and/or retail products
- Across many modes<Truckload, LTL, Ocean Container, Railcar, Air Freight
- Various commodities + quantities of hazardous materials through my supply chain
- Knowledgeable on documentation best practices for DG
- Securement of DOT exemptions for FTL transport of batteries OTR and to port of origin



C+D Trojan Batteries



What are “Dangerous Goods”?

- FAA defines dangerous goods as:
“Any substance or material capable of posing an unreasonable risk to health, safety, and property when transported in commerce.”
- IMDG Code was developed “for the maritime transport of dangerous goods in packaged form, in order to enhance and harmonize the safe carriage of dangerous goods and to prevent pollution to the environment.”

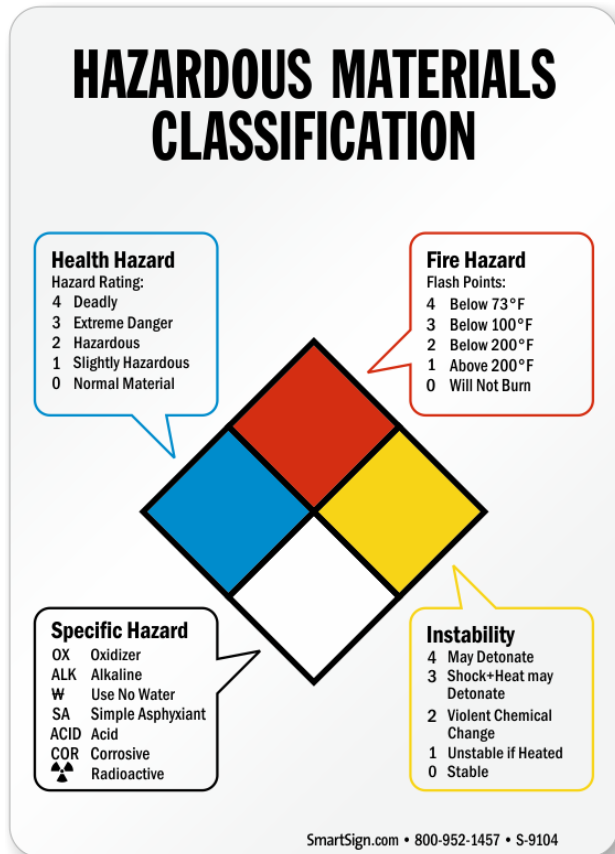
COMMON EXAMPLES:

-Chemicals, Flammable Materials, Explosives

Three “C”s of HazMat

GOAL: Ensuring Compliance + Safety

CLASSIFICATION

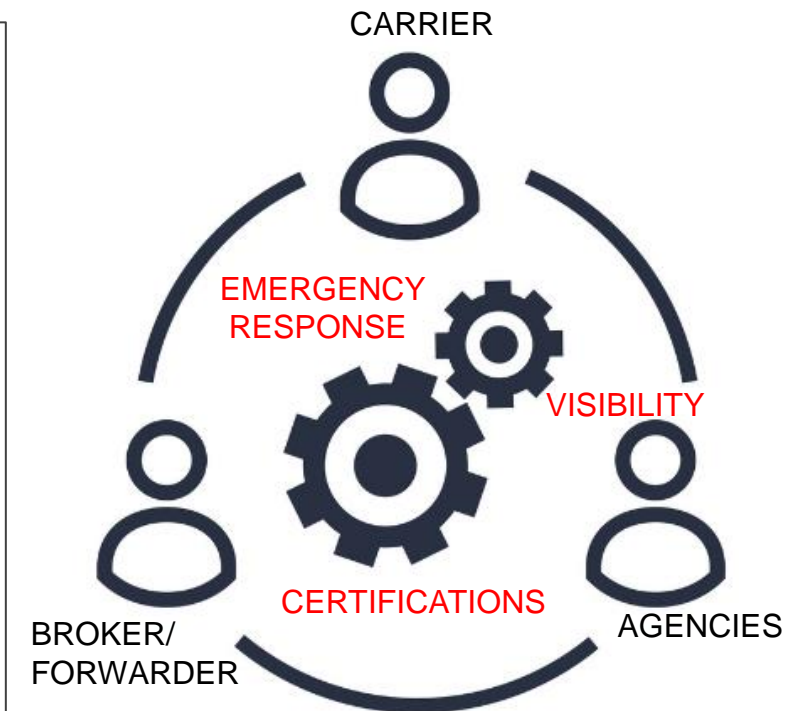


COMPLIANCE



Source: <https://cybersecop.com/news/2018/3/14/compliance-complacency-are-you-compliant>

COLLABORATION



CLASSIFICATION

Basics of classification criteria for dangerous goods:

1. Identifying the substance – chemical name, UN #, etc. – for potential hazard properties
2. Selecting Hazard Class per applicable agency: IMO, DOT, IATA
– There are 10 generally accepted classes: **how many can you think of right now?**
3. Determine appropriate packaging group based on level of risk
PG1: Great danger **PG2: Medium danger** PG3: Minor danger
4. Understand quantity limits for each DG to be transported without special permits or measures
5. Work to identify any applicable Special Provisions + their requirements

COMPLIANCE

Who knows what these placards mean?



COMPLIANCE



Areas of emphasis for DG Compliance:

- **Documentation:** Proper shipping papers, transport documents, and declarations
- **Packaging:** Use approved containers, closures, and packaging materials for DG
- **Placarding:** Each side must display proper placards per classification details
- **Training:** Require training + certification for personnel supporting transport and loading process of HazMat

DOCUMENTATION



From the Federal Motor Carrier Safety Administration [FMCSA] – required data:

1. Identification number, found in the Hazardous Materials Table
2. Proper shipping name
3. Hazard class
4. Packing group [identified in Roman numerals]
5. Total quantity of hazardous materials
6. Number + type of packages holding DG contents
7. Any additional description requirements per **49 CFR Section 172.203**

Effective collaboration is essential to managing dangerous goods shipments. Consider internal + external partners in the standard dissemination of data, procedures, and actions.



EMERGENCY RESPONSE

- 24-hour emergency containment contact (can be company or service provider)
- Safety Data Sheets should accompany or be on file with transport provider
- Clear SOPs on how to mitigate incident



VISIBILITY

- Tracking via TMS or 3PL portal site with real-time data
- Ocean Carrier/Freight Forwarder reqs for DG bookings
- Shipping milestones recorded in ERP or TMS
- Proper reporting of quantity + type of DG with CBP, DOC, + OGAs



REFERENCE MATERIALS

- 49 CFR Part 172
- Relevant Product MSDS
- Dangerous Goods Regulations
- Lithium Battery Shipping Regulations

CERTIFICATION

- DG Handling in Distribution environment
- HazMat loading/packaging
- DG Documentation
- DG Reporting + Compliance



BEST PRACTICES

Comprehensive classification with assistance from broker or freight forwarder (as needed)

Regular training and recertification for Shipping teams

Use of advanced tracking + monitoring systems for risk mitigation

Collaboration with emergency response agencies + carriers

TPM²⁴

by **S&P Global**

THREE “C”S OF HAZMAT



1. CLASSIFICATION

2. COMPLIANCE

3. COLLABORATION

TPM²⁴

by S&P Global

QUESTIONS?

THANK YOU.

Three “C”s of HazMat
Managing Dangerous Goods Shipments

Holly Pearce
C+D Trojan

- Code of Federal Regulations [CFR]: <https://www.ecfr.gov/current/title-49/subtitle-B/chapter-I/subchapter-C/part-172/subpart-B>
- Department of Transportation [DOT]<Ocean: [https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/docs/Maritime Transportation of Hazmat.pdf](https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/docs/Maritime_Transportation_of_Hazmat.pdf)
- Department of Transportation [DOT]<DG Regulations: <https://www.phmsa.dot.gov/standards-rulemaking/hazmat/hazardous-materials-regulations>
- Federal Aviation Administration [FAA]: [https://www.faa.gov/hazmat/what is hazmat](https://www.faa.gov/hazmat/what_is_hazmat)
- Federal Motor Carrier Safety Administration [FMCSA]: <https://www.fmcsa.dot.gov/faq/what-hazardous-materials-require-hazardous-materials-safety-permit>
- FMCSA Materials Marking, Labeling, and Placarding Guide: [https://www.fmcsa.dot.gov/sites/fmcsa.dot.gov/files/docs/Hazardous Materials Markings Labeling and Placarding Guide 508CLN.pdf](https://www.fmcsa.dot.gov/sites/fmcsa.dot.gov/files/docs/Hazardous_Materials_Markings_Labeling_and_Placarding_Guide_508CLN.pdf)
- International Air Transport Association [IATA] : <https://www.iata.org/en/programs/cargo/dgr/>
- International Maritime Organization [IMO]: <https://www.imo.org/en/OurWork/Safety/Pages/DangerousGoods-default.aspx>