



**WETRAIN**  
CONSULTING

# **TRANSPORT CHANGES** **for the SCHC inclined**

**Gene Sanders**

CET, DGSA, CDGP, CDGT

27 September 2016



# What's an article?

---



- What goes in Section 14?



---

# BACKGROUND



- United Nations recommendations
  - Modal Organizations (treaty)
    - IMO
      - IMDG Code
    - ICAO
      - Technical Instructions (TI)
      - IATA DGR
    - ~Europe~
      - ADR
      - RIN
      - ADN



- United Nations model regulations
  - Modal Organizations (treaty)
  - States (nations, countries)
    - Canada
      - Transport Canada & TDG
    - United States
      - D.O.T. & 49CFR
    - Mexico
      - NOMs
    - Australia
      - ADOT
    - Etc.



- IMO's IMDG Code
  - Print books in even year
    - Date book that year
  - Voluntary effect in next year (odd)
    - Old regs can still be used
  - Mandatory effect in year after (even)
    - Old regs NOT allowed
  - Mandatory effect in next year?
    - 'Newer' regs take voluntary effect

# Biennial Cycle



- IMO's IMDG Code
  - 2016
    - “2014” regs only (37<sup>th</sup> edition)
  - 2017
    - New “2016 regs (38<sup>th</sup> edition), OR,
    - Old “37-14”
  - 2018
    - 38-16 only
  - 2019
    - 38-16 or 39-18

# Biennial Cycle



- ICAO TI
  - Jan. 1, Odd Year → Dec. 31, Even Year
- IATA DGR
  - Regulations (ICAO's), PLUS
  - what they wish were regulations
  - Jan. 1, every year → Dec. 31, same year
- No transition period



# Biennial Cycle

---



- ADR
  - Jan. 1, Odd Year → Dec. 31, Even Year
    - Six month transition for substances & articles
    - Longer for tanks and vehicles and such

# Whenever they feel like it

---



- Transport Canada
  - TDG
    - Gazette 1
    - Gazette 2
  - Varying transition periods

# Whenever they feel like it

---



- PHMSA (U.S. D.O.T.)
  - Federal Register
    - ANPRM
    - NPRM
    - Final Rule
  - Varying transition periods



---

# WHAT HAPPENED?



- Size of Marks (marking)
  - Identification (usually UN) Number
    - ADR
    - IMDG Code
    - ICAO
      - IATA, applies it to all “use” marks, too
        - » Proper Shipping Name
        - » To & From, Names & Addresses
        - » Quantities
        - » Etc...



- No ADR change, mid-biennium
- IMDG Code
  - 36-12, no longer allowed
  - 37-14, only option
- ICAO
  - E-cigs, minor battery carry-on tweaks
  - IATA, new book
    - Created “consignment”
    - Defined “equipment” in relation to batteries

# April 1, 2016

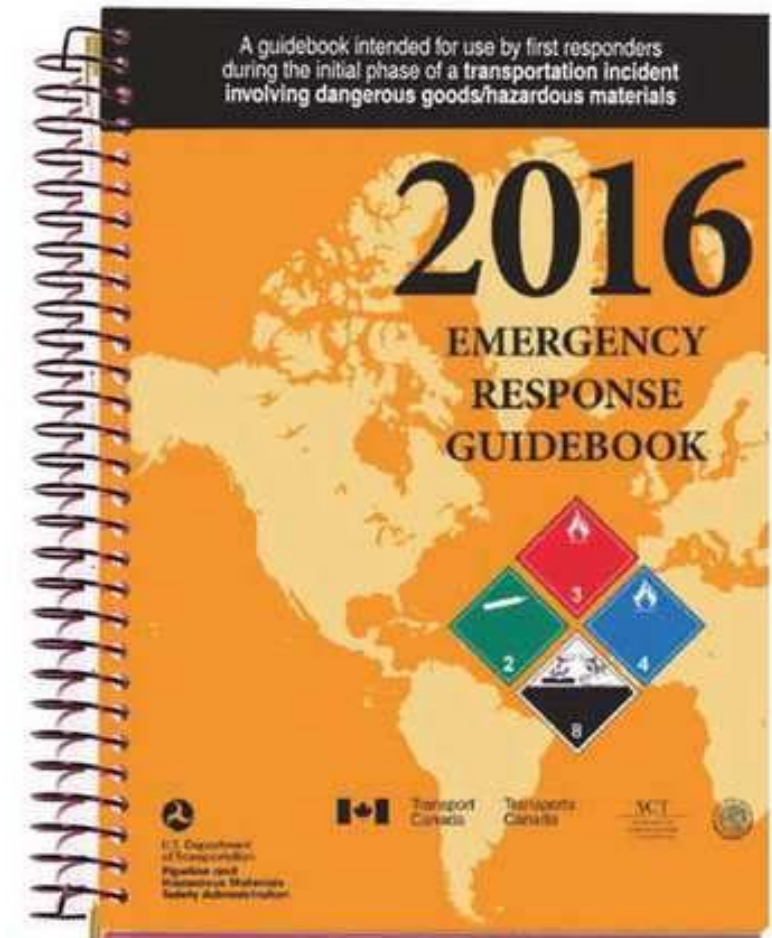


- Lithium Ion batteries *alone*
  - Forbidden on PAX
  - State Of Charge (SoC)
    - CAO, of course

# USA past year 49CFR changes



- High Hazard Trains (HHFT)
- SPs into regs
- \$\$\$





# USA past year 49CFR changes

---

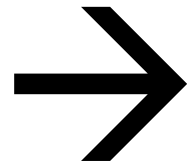


- Reverse Logistics
- G in Column 1 for UN3077
- Ongoing phase out of ORM-D

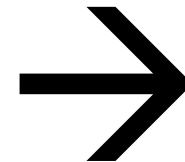
# Bye-bye ORM-D



ROOT



LTD QTY



*BASE or  
INTRINSIC  
Classification*

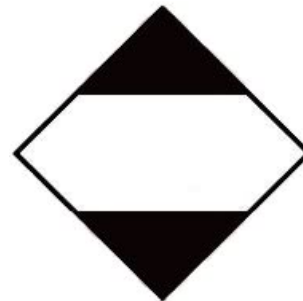
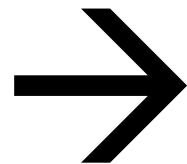
*Assuming  
Column 8A*

*Restrictions  
& Relief  
SHIP PAPERS*

*Assuming  
Con Com  
RECLASSIFICATION*

*No Ship Paper  
NO HAZMAT  
FEES*

ROOT



*BASE or  
INTRINSIC  
Classification*

*Assuming  
Column 8A*

*No Ship Paper  
NO HAZMAT  
FEES*

WHY?



---

# WHAT NEXT?

# New Identification Numbers



- Usually begin with “UN”
  - UN3527
    - Polyester Resin Kits
      - Now a 4.1 option, to go with the 3 already there
  - UN3528 → UN3530
    - Engines & Machinery (not vehicles)
      - 2.1, 3, or 9, depending upon the fuel (*were UN3166, 9*)
  - UN3531 → UN3534
    - Polymerizing Substances, ...
      - New SAPT, analogous to SADT

# Other Classifications



- Halogenated Monomethyldiphenylmethanes
  - So far, USA only, I think.
    - Similar in properties to PCBs and PCTs, so...
    - Added as new PSNs to UN3151 or UN3152...
      - ...which already include PHBs and PHTs
- These're poisonous, too
  - 2 x Uranium hexafluoride, primary
  - N-Aminoethylpiperazine, subsidiary

# More classification



- If a viscous 3, III,
  - AND
- if EHS, then,
  
- just EHS (UN3077)
  - and 5kg/5L exception can apply



- A new concept in DG
  - **Consignment**
    - It's not just the size of the batteries
      - Grams or WattHours
      - Weight
    - It's not just the number of batteries (*or cells*)
    - It's not just the number of packages
    - More than 2 pkg's going to same destination require extra HazComm

# Lithium Batteries

---



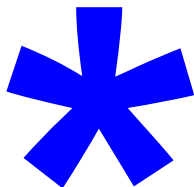
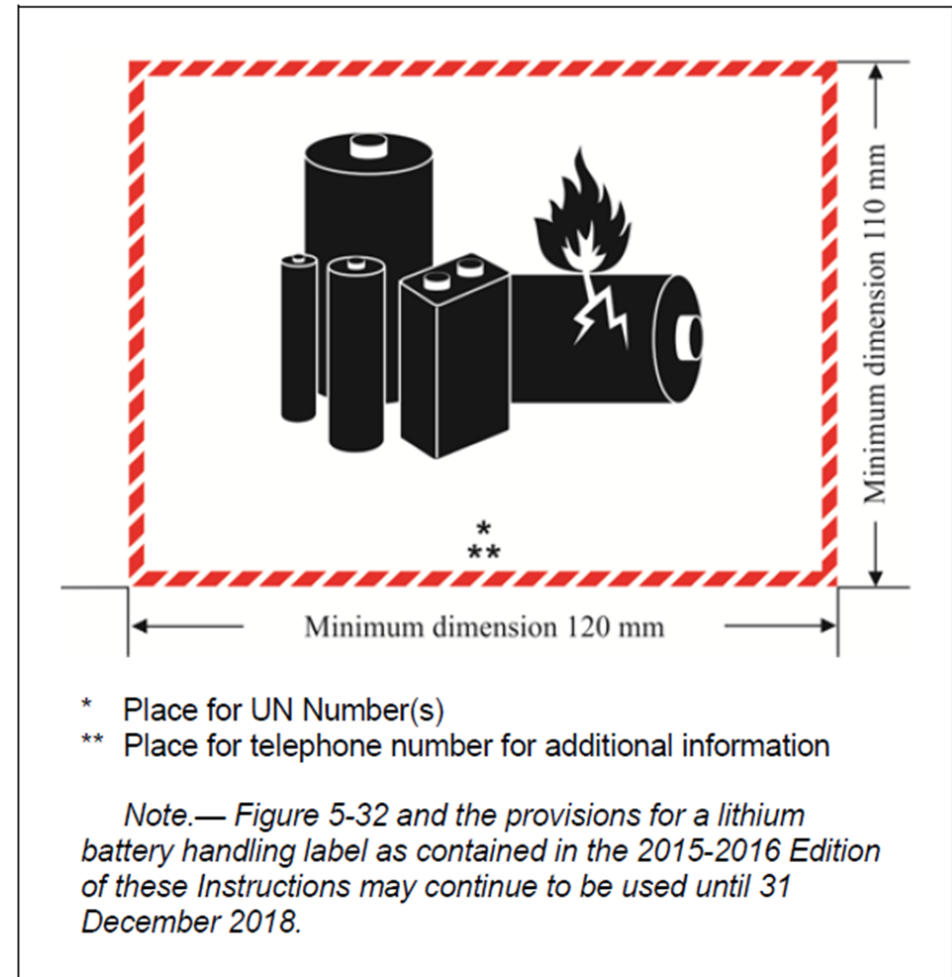
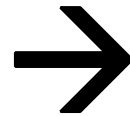
- Some don't require the limited, funky, ERG document, any longer.
  - It only told you 3½ things



# Lithium Batteries

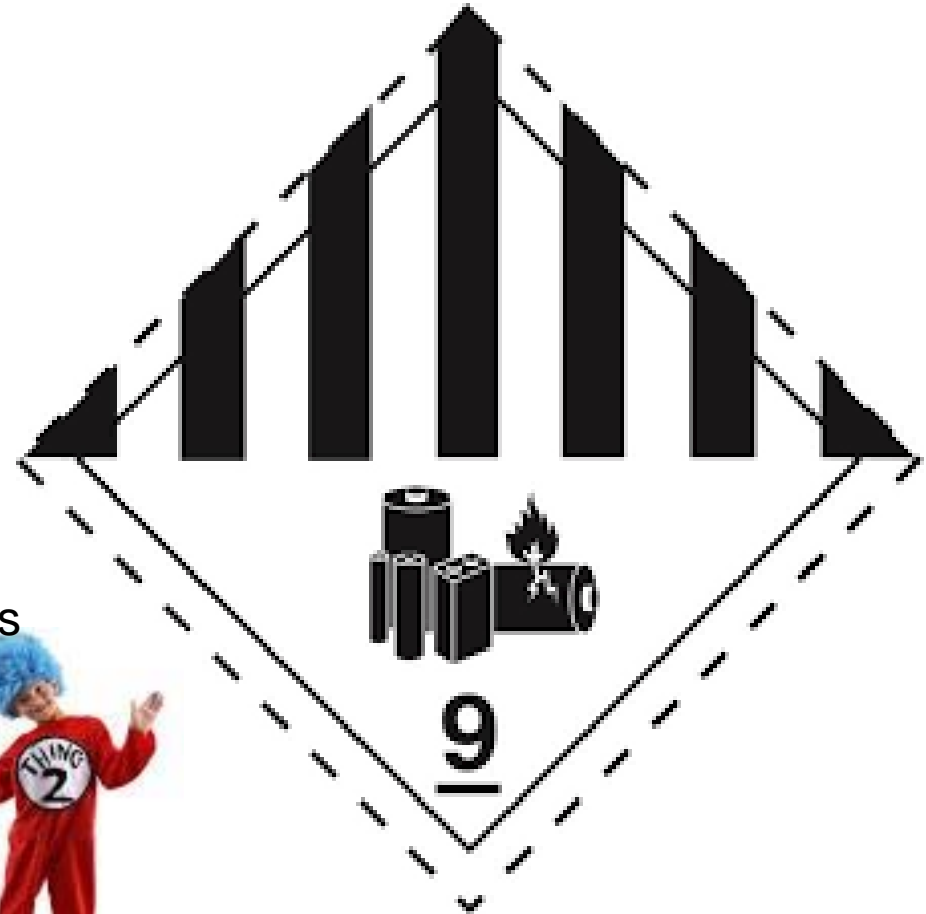
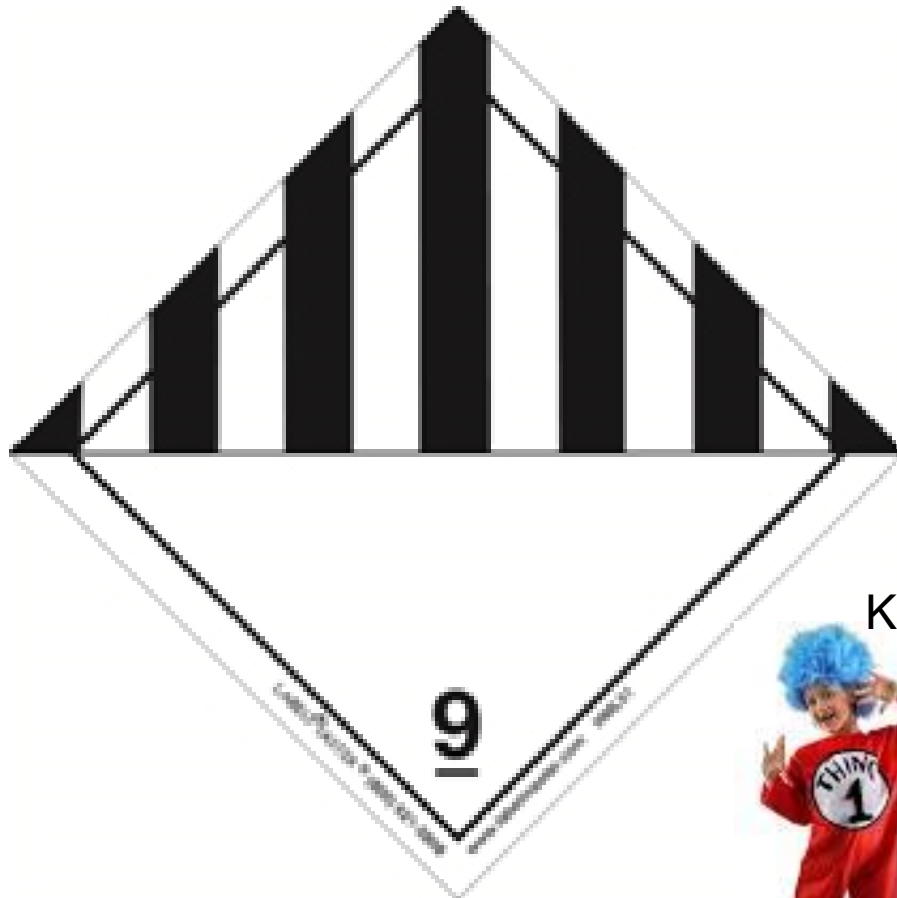


Insert new Figure 5-3:



**Label  
vs.  
Mark**

# Lithium Batteries



Kohl's



# Cute, little, baby labels in the U.S.



- Small package, big labels. How?
  - Canada answer: Shrink the diamond
  - U.S. old answer: Square is okay
  - U.S. intermediate answer: Shrink all but borders
  - U.S. new answer: Shrink proportionally

# U.S. Marine Pollutants



- Not criteria based...
  - ...unless you want to.
- Six new 'ones':
  - Hexanes
  - Hypochlorite solutions
  - Isoprene, stabilized
  - N-Methylaniline
  - Methylcyclohexane
  - Tripropylene

# Vicious Liquids



Photo from Pinterest



- Thixotropic
  - Kinematic viscosity

# 4 minor ones



- **PING-PONG BALLS**
  - UN2000, Celluloid
    - 3g ea., 500g package, SP A205 = non-reg
- **Methanol**
  - UN1230, ~~SP A104, no subrisk (6.1)~~
- **Aviation Regulated**
  - Reclassification into ID8000, ConCom allowed
- **IATA DGD (Shipper's Dec)**
  - Title
  - Place



- Size of Marks (marking)
  - Identification (usually UN) Number
    - ADR
    - IMDG Code
    - ICAO
      - IATA, applies it to all “use” marks, too
        - » Proper Shipping Name
        - » To & From, Names & Addresses
        - » Quantities
        - » Etc...
- US enforcement 01jan2017

# U.S. Agenda for coming 120 days



- HM-219A
  - Miscellaneous Petitions
- HM-234
  - Cylinder Petitions
- HM-251B
  - Oil Spill Response Plans
- HM-215N
  - International Harmonization
- HM-261D
  - Volatility of Unrefined Petroleum
- HM-259
  - NOTOC and Air Petitions



# U.S. Agenda for coming 120 days



- HM-219A
  - Miscellaneous Petitions
- HM-234
  - Cylinder Petitions
- HM-251B
  - Oil Spill Response Plans
- **HM-215N**
  - **International Harmonization**
- HM-261D
  - Volatility of Unrefined Petroleum
- HM-259
  - NOTOC and Air Petitions

# U.S. Agenda, continued



- HM-209A
  - Revisions to Grants Programs
- HM-213E
  - Cargo Tank ID Numbers
- HM-224I
  - Lithium Batteries
- HM-263
  - ERI / Fusion Centers
- HM-241
  - ASME Code Section XII
- HM-251A
  - Entire Rail Revision (Part 174)

# U.S. Agenda, continued



- HM-209A
  - Revisions to Grants Programs
- HM-213E
  - Cargo Tank ID Numbers
- **HM-224I**
  - **Lithium Batteries**
- HM-263
  - ERI / Fusion Centers
- HM-241
  - ASME Code Section XII
- HM-251A
  - Entire Rail Revision (Part 174)



---

# DOWN THE ROAD?

# Transport Regulators



- United Nations model regulations
  - Modal Organizations (treaty)
    - IMDG Code
    - ICAO
    - ADR
    - AND
    - RID
  - States (nations, countries)
    - Canada
    - United States
    - Mexico
    - Australia
    - Etc.



- UN Committee of Experts
  - on the Transport of Dangerous Goods
  
- UN Subcommittee of Experts
  - on the Transport of Dangerous Goods
  
  - on the Globally Harmonized System

# GHS versus Transport



Does this:



always mean this?





- Industrial dishwasher soap
  - Solid, pH > 13
    - Supplier said non-dangerous
      - Corrosive tester said 13% chance non-8
      - Well, duh, then 87% chance it is Class 8

A pH value may indicate that a specific aqueous solution is an acid or a base but may be inadequate for making classification and packing group determinations unless the shipper has additional material - specific information. In general, an extremely high or low pH is indicative that a solution poses a greater corrosivity hazard than a solution with a less extreme pH value; thus a material in aqueous solution with a pH of 2 or less, or 12 or more, may be considered a corrosive material.

Mid-range pH does NOT disprove corrosive properties, though.



# Reacts with water to release 2.3



- Compliant **4.3** Non-compliant



- Non-compliant **non-DG** Compliant

# Lithium Batteries

---



- Gene's predictions
  - More's gonna happen
  - They may not wait a full biennium
  - Things won't get easier for the good guys
- Happening imminently
  - FedEx no longer accepting Section II *alone/just*
- Rumored
  - All Section II will disappear



- PHMSA & OSHA joint memo
  - 19sep2016
    - Thanks, DGAC
      1. OSHA regulates in workplace.
      2. PHMSA rules in transport, even 'non-haz'.
      3. Marks/Labels can be on others turf, but...
      4. ...OSHA must be complete set
        - » non-OSHA GHS not always compliant
    - ?? *Implications for Europe* ??

# U.S. EPA consideration

---



- Aerosols to be only universal waste?
  - No waste manifest?
- Will still be UN1950, even when transported as waste.
  - Unless LQ, will still need shipping papers

# Open for Comment



- 2¢



- **Comment** BEFORE it becomes a final rule