Changes from the ERG2016 Guidebook to the ERG2020 Guidebook

White pages

For these pages, we:

- reviewed the guidebook and changed these sections to make them easier to read and understand:
  - Introduction to Green Tables
  - Protective Actions
  - Background on Table 1 - Initial Isolation and Protective Action Distances
  - How to use Table 1- Initial Isolation and Protective Action Distances
  - User's Guide
  - Protective Clothing
  - Fire and Spill Control
  - Criminal or Terrorist Use of Chemical, Biological and Radiological Agents
- added a new decontamination section to describe basic contamination theory and proper decontamination techniques.
- reworked the BLEVE section into the BLEVE and Heat Induced Tear section. This section now shows the cause and hazards of BLEVEs and Heat Induced Tears.
- added:
  - lithium battery label and marking, and gasoline placard to the Table of Markings, Labels, and Placards.
  - new terms and their definitions to the Glossary:
    - adsorbed gas
    - boil over
    - flooding quantities
    - high expansion foam
    - organic peroxide
    - refrigerated liquefied gas
  - basic information on Improvised Explosive Devices (IED) in the Criminal or Terrorist Use of Chemical, Biological and Radiological Agents section.
  - a top view illustration of the TC117/DOT117 to the Rail Car Identification Chart.
  - illustration of an Intermodal Freight Container to the Road Trailer Identification Chart
- improved the illustrations in the Rail Car and Road Trailer Identification Charts.

Yellow and Blue pages

For these pages, we:

- removed the UN numbers for Chemical Warfare Agents and moved them to the beginning of the yellow pages and Table 1. They're still in alphabetical order in the blue pages.
- added fifteen new materials (UN3535 to UN3549) listed in the UN Recommendations on the Transport of Dangerous Goods (up to the 21st revised edition).
- deleted out of date materials based on the UN Recommendations on the Transport of Dangerous Goods and North American regulations.
- re-evaluated the polymerization hazard criteria for some high-risk materials, and added the polymerization marking **(P)** to 13 materials:
  - UN1051
  - UN1099
  - UN1100
  - UN1129
  - UN1275
  - UN1988
  - UN1989
  - UN2048
  - UN2480
  - UN2482
  - UN2483
  - UN2485
  - UN2486
- re-analyzed the chemical properties of many materials to make sure that they're assigned to the appropriate Orange Guide. Also moved thirty-four materials to a different Orange Guide:
  - UN1006 (Guide 121 to 120)
  - UN1046 (Guide 121 to 120)
  - UN1056 (Guide 121 to 120)
  - UN1065 (Guide 121 to 120)
  - UN1066 (Guide 121 to 120)
  - UN1112 (Guide 140 to 128)
  - UN1199 (Guide 132 to 153)
  - UN1450 (Guide 141 to 140)
  - UN1494 (Guide 141 to 140)
  - UN1500 (Guide 140 to 141)
  - UN1649 (Guide 131 to 152)
  - UN1802 (Guide 140 to 157)
  - UN1848 (Guide 132 to 153)
  - UN1865 (Guide 131 to 128)
  - UN1872 (Guide 141 to 140)
  - UN1928 (Guide 135 to 138)
  - UN1990 (Guide 129 to 171)
  - UN1994 (Guide 131 to 136)
  - UN2036 (Guide 121 to 120)
  - UN2209 (Guide 132 to 153)
  - UN2211 (Guide 133 to 171)
  - UN2381 (Guide 130 to 131)

- UN2438 (Guide 132 to 131)
- UN2721 (Guide 141 to 140)
- UN2806 (Guide 138 to 139)
- UN2983 (Guide 129 to 131)
- UN3084 (Guide 140 to 157)
- UN3093 (Guide 140 to 157)
- UN3257 (Guide 128 to 171)
- UN3304 (Guide 123 to 125)
- UN3308 (Guide 123 to 125)
- UN3379 (Guide 128 to 113)
- UN3380 (Guide 133 to 113)
- UN3463 (Guide 132 to 153)

Orange pages

For these pages, we:

- added an introduction called “How to use the Orange Guides”. This new section explains the 4 parts of an Orange Guide. In this section, the terms “evacuate” and “isolate” are defined.
- merged Guide 121 with Guide 120. Guide 121 now states: “Page intentionally left blank”. Products that referred to Guide 121, now refer to Guide 120.
- had the Orange Guides for radioactive materials (Guide 161 to Guide 166) re-evaluated for technical accuracy by the Canadian Nuclear Safety Commission.
- had the Orange Guide for infectious substances (Guide 158) validated by the Occupational Safety and Health Administration (OSHA) and National Institute for Occupational Safety and Health (NIOSH).
- moved the safety distances that were in the Public Safety section to the Evacuation section. Now all safety distances in an Orange Guide fall under the same heading.
- added safety distances for ammonium nitrate on fire to Guide 140.
- increased safety distances for materials on fire in Guide 114 from 500 m (1/3 mile) to 800 m (1/2 mile). This was based on consultations with stakeholder subject matter experts.
- added CAUTION sentences for specific compounds. These sentences:
  - describe proper firefighting and spill remediation techniques for liquefied natural gas (LNG):
    - in Guide 115
  - describe inhalation toxicity concerns due to sulphide gas in petroleum crude oil:
    - Guide 128
  - describe the explosive nature, even in the absence of air, of:
    - acetylene in Guide 116
    - ethylene oxide in Guide 119
  - describe the hazards of an invisible flame for:
    - ethanol in Guide 127
    - methanol in Guide 131
    - carbon monoxide in Guide 168

    - describe the toxicity of pentaborane:
        - in Guide 135
    - describe the flammability hazards of some aerosols:
        - in Guide 126
- reviewed the Orange Guides with the help of instructors from the United States National Fire Academy (NFA).
    - Some sentences were added, deleted, or changed to give the best available advice and use consistent and clear language.
- separated the references to highlighted and non-highlighted materials in the Evacuation section and simplified the language to make it easier to understand.

Green pages

For these pages, we:

- revised the distances in Table 1 and Table 3.
- organized Table 3 by ID number (numerical order of material) instead of alphabetical order.
- revised "How to use Table 2" to clearly explain that the information in Table 2 is for **information purposes only**. Table 2 doesn't change the suggested response strategies listed in the related Orange Guide, Table 1 or Table 3.
- added Table 3 container capacities in the section called "How to use Table 3".
- added a visual tab in the green page border to make it easier to see the differences between Table 1, 2 and 3. The tables are all still the same green color but the side margins now include a series of white boxes that go down the page with the words Table 1, Table 2, or Table 3.
- added more Toxic Inhalation Hazard (Poison Inhalation Hazard in the U.S.) materials in Table 1 and Water-Reactive Materials in Table 2:
    - UN1390 to Table 1 and Table 2
    - UN2965 to Table 1 and Table 2
    - UN3539 to Table 1