

USING DECISION MAKING TOOLS DURING AN INCIDENT OR TRAINING



AIHATM



Florida
LOCAL SECTION

INTRO & WELCOME

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QR CODES FOR SIGN IN SHEET: [HTTPS://TINYURL.COM/HMITSIGNIN](https://tinyurl.com/hmitsignin)

You will be asked for:

- First Name
- Last Name
- Email
- Instructor's Name - **NICK**
- Which day are you attending? - **1**



Course Agenda

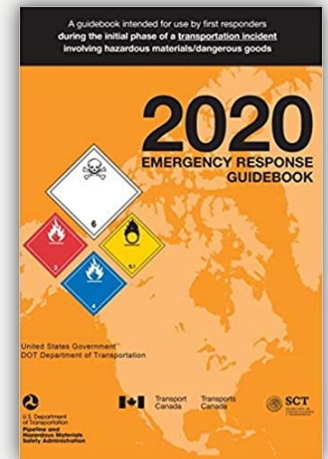
- Safety, Isolation and Notifications (S.I.N.)
- Emergency Response Guidebook (ERG)
- ERG App usage
- NIOSH Pocket Guide to Chemical hazards
- Wisser
- Scenario

**The video originally on this slide
can be viewed at
<https://youtu.be/41Blssp3zbk>**

ERG MOBILE APP

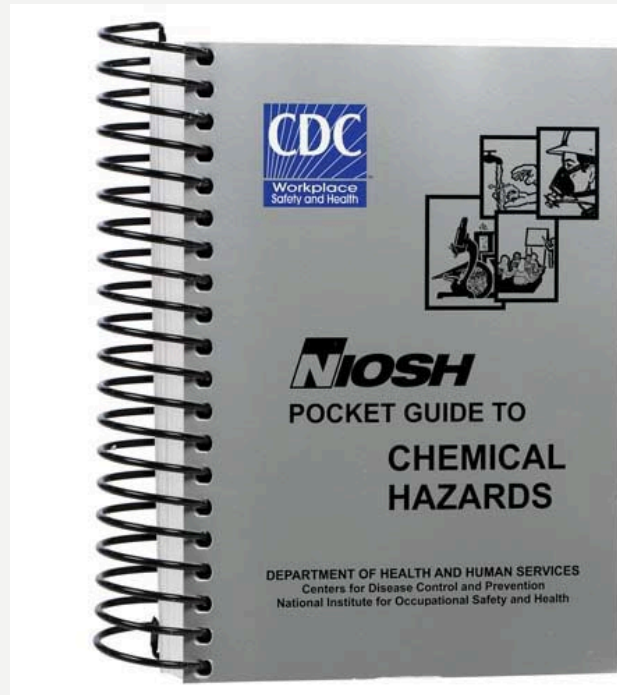
Free!!

Download the ERG onto your smartphone or tablet by scanning the QR code below.



NIOSH POCKET GUIDE

- Download the app for your mobile device.



FREE Printed Copies:

<https://wwwn.cdc.gov/pubs/CDCInfoOnDemand.aspx?ProgramID=147>

WISER

FREE



- <http://wiser.nlm.nih.gov>
- Mobile support - Computer/Cell
 - WISER currently exists as a Stand-alone mobile application for IOS and Android devices
 - Microsoft Windows PC application
 - Web application (WebWISER)
- Identification of an unknown substance and actions
- Substances from NLM's Hazardous Substances Data Bank ([HSDB](#)) which contains detailed information on over 6,060 critical hazardous substances

POSITIVE SAFETY ATTITUDE

Three techniques to ensure safety:

Safe
Approach

Key Safety
Guides For
All

Safe
Assessment

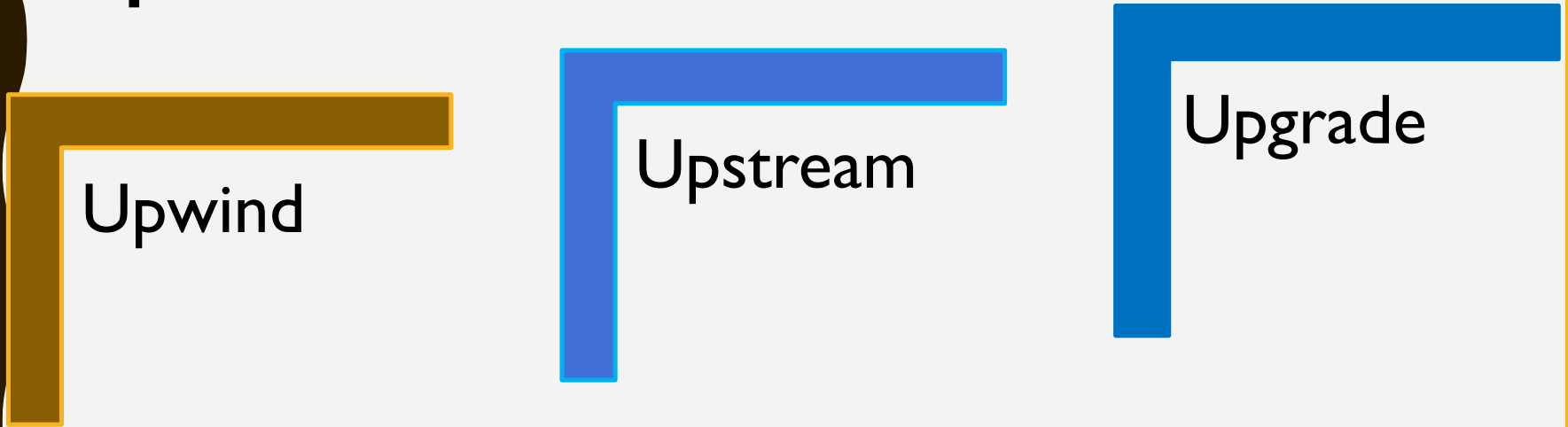
POSITIVE SAFETY ATTITUDE

Three techniques to determine your approach:

- **2020 ERG**
- **Rule of Thumb**
- **Rule of Powdered Donut**

SAFE APPROACH

As per ERG:



KEEP A SAFE DISTANCE!



SAFE APPROACH



- Position vehicles away from event...
 - For quick departure!
- Advise responders of safe route of approach.

CONDUCT SAFE ASSESSMENT



- Conduct safe size-up
- Or you may have no size-up

CONDUCT SAFE ASSESSMENT

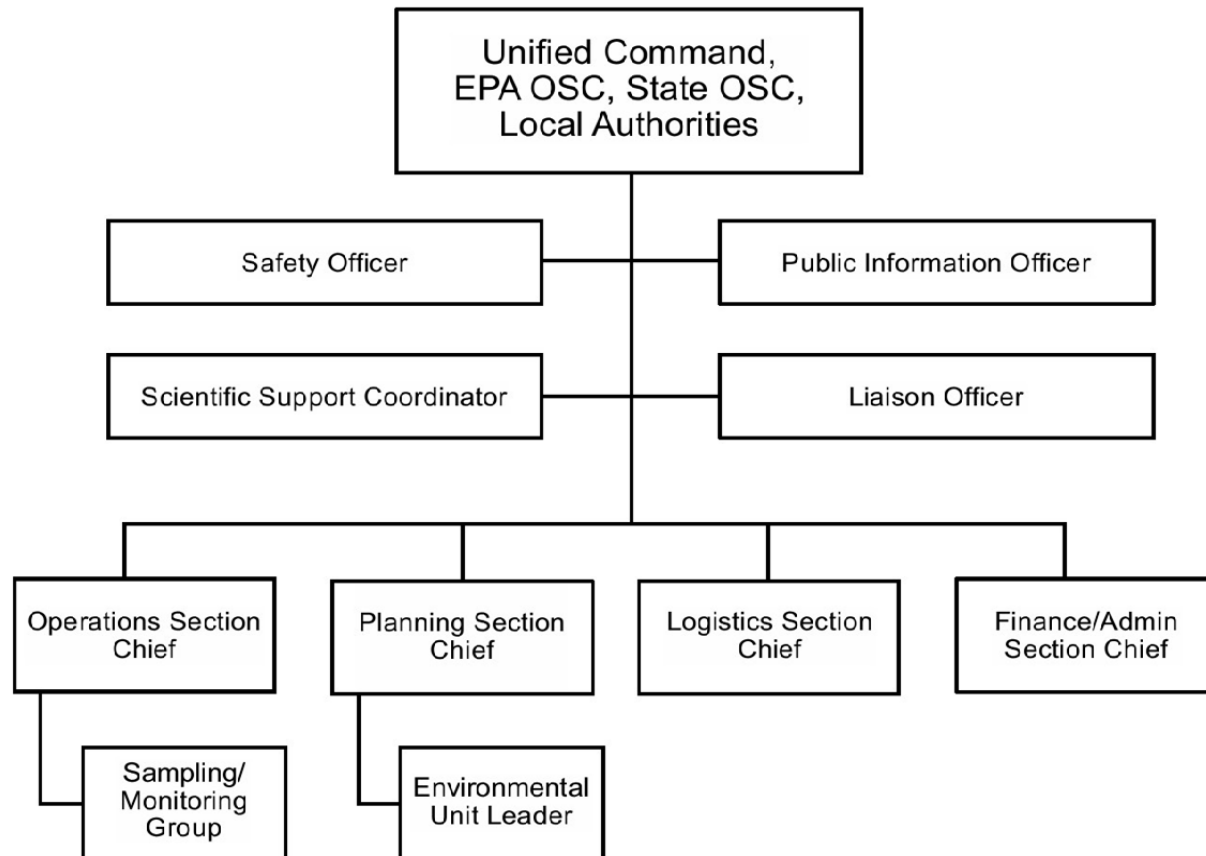
- Don't get close enough for positive ID
- Slow down, shut-off A/C, observe area
- Position vehicles headed away
- Use binoculars to identify/assess

DESIRED INITIAL ACTIONS



- Safe Approach
- Isolate & Deny Entry
- Make Initial Notifications
- Establish Temporary Command

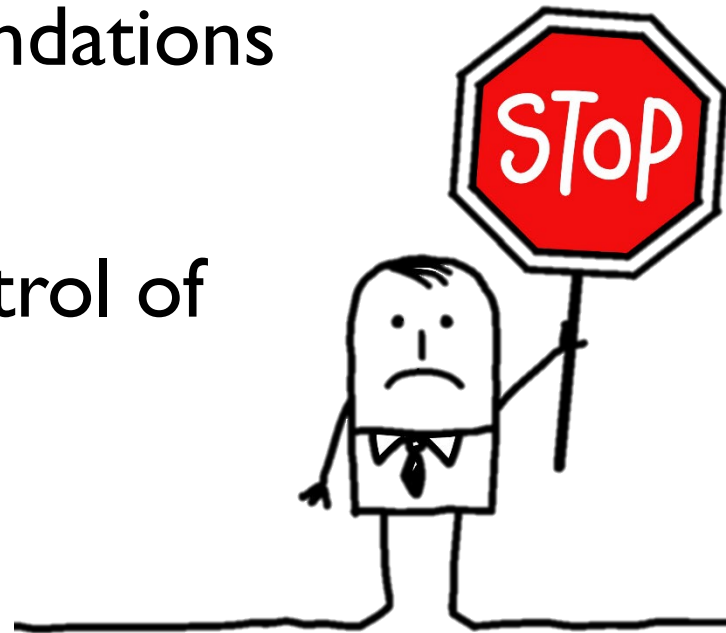
ICS FLOW CHART – BASIC USEPA STRUCTURE



**The video originally on this slide
can be viewed at
<https://youtu.be/rFcIPUaXamw>**

FIRST OPERATIONAL PRIORITY

- Isolate & deny entry!
 - by establishing a “Perimeter”
- Use **ERG** recommendations
- Dilemma
- Safe distance vs. control of Perimeter



SITE WORK ZONES CONTROL

Three contiguous work zones are recommended during hazardous work operations and emergency response procedures:

- Exclusion Zone or Hot Zone
- Contamination Reduction Zone or Decontamination Zone
- Support Zone or Safety Zone



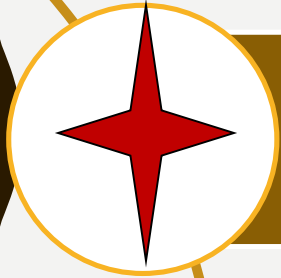
FIRST OPERATIONAL ALERT



Notifications



TYPES OF NOTIFICATIONS



Mandatory Notifications



Resource Requests



Report of Conditions

RP NOTIFICATION REQUIREMENTS



- Responsible party must make “Mandatory” notifications
 - To proper authorities
 - Releases with potential adverse impact
 - Health
 - Safety
 - Environment



NOTIFICATION REQUIREMENTS FLORIDA

- **“Mandatory” notifications**
 - Remember to tell your supervisor there was a problem and responders are on their way!!
 - **Local 911 — Local dispatch**
 - **DEP State Watch Office — 1-800-320-0519**
Department of Environmental Protection
 - **National Response Center — (800) 424-8802**
 - If you have a Reportable Quantity (RQ)
 - Section 49CFR 172.101 Table 1 lists the RQ
 - Some SDS also list the RQ values

NOTIFICATION REQUIREMENTS FLORIDA

- Please be aware that while submission of a Notice through the website complies with the requirements of [§403.077, F.S.](#), it does not relieve you of any obligation to report to the State Watch Office or other authority required by your permit or state law

NOTIFICATION REQUIREMENTS FLORIDA

- **Petroleum Based Spills**

- **Spills into or involving state waterways (any amount)**
- **Spills greater than 25 gallons (or potential > 25 gallons)**
- **Spills requiring any state/federal notifications or assistance**

- **Chemical Spills**

- **All SARA/EHS/CERCLA Releases**
- **All spills threatening population or the environment**
- **All spills requiring evacuation**

NOTIFICATION ISSUES

Having a checklist can help



WHAT IS INSIDE THIS TANKER? HOW DO YOU DETERMINE THE HAZARDS



Styrene is chemically known as vinyl benzene

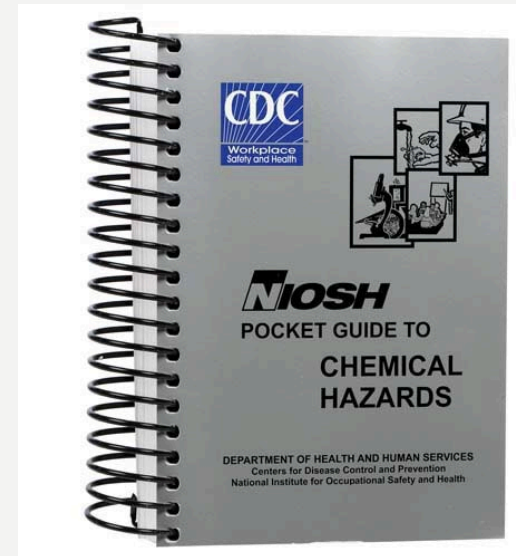
DETERMINING HAZARDS

- The company told us what the material is
–STYRENE
- Now what are the real hazards?

The incident had an SDS but it and the companies name are still part of the court case

NIOSH POCKET GUIDE

- **This is a must have!**
- Source of general industrial hygiene information on several hundred chemicals/classes for workers, employers, and occupational health professionals.
- Key information and data in abbreviated or tabular form for chemicals or substance groupings.



NIOSH POCKET GUIDE

- Hazards and Exposures
- Chemicals
- Emergency Preparedness and Response
- Safety and Prevention
- Diseases and Injuries
- There is a downloadable link and App from the CDC



NIOSH POCKET GUIDE

- Free printed copies of the NIOSH Pocket Guide are available. (up to 10)
- Print Version, DHHS (NIOSH) Publication No. 2005-149.
- Download the app from your mobile device.

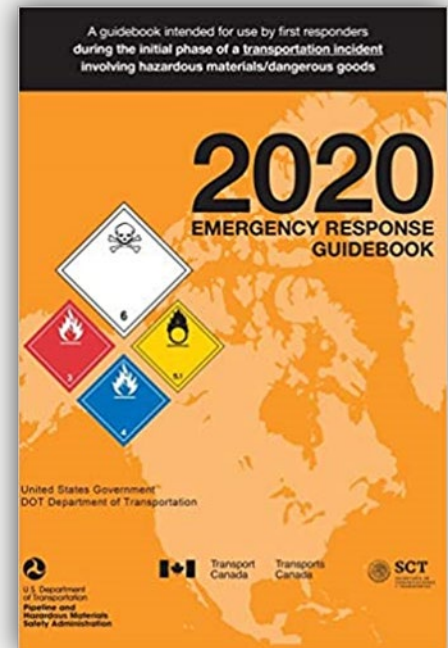


Styrene	Formula: C ₆ H ₅ CH=CH ₂	CAS#: 100-42-5	RTECS#: WL3675000	IDLH: 700 ppm
Conversion: 1 ppm = 4.26 mg/m ³		DOT: 2055 128P (inhibited)		
Synonyms/Trade Names: Ethenyl benzene, Phenylethylene, Styrene monomer, Styrol, Vinyl benzene				
Exposure Limits: NIOSH REL: TWA 50 ppm (215 mg/m ³) ST 100 ppm (425 mg/m ³) OSHA PEL†: TWA 100 ppm C 200 ppm 600 ppm (5-minute maximum peak in any 3 hours)			Measurement Methods (see Table 1): NIOSH 1501, 3800 OSHA 9, 89	
Physical Description: Colorless to yellow, oily liquid with a sweet, floral odor.				
Chemical & Physical Properties: MW: 104.2 BP: 293°F Sol: 0.03% Fl.P: 88°F IP: 8.40 eV Sp.Gr: 0.91 VP: 5 mmHg FRZ: -23°F UEL: 6.8% LEL: 0.9% Class IC Flammable Liquid	Personal Protection/Sanitation (see Table 2): Skin: Prevent skin contact Eyes: Prevent eye contact Wash skin: When contam Remove: When wet (flamm) Change: N.R.	Respirator Recommendations (see Tables 3 and 4): NIOSH 500 ppm: CcrOv*/Sa* 700 ppm: Sa:Cf*/CcrFOv/GmFOv/ PapOv*/ScbaF/SaF §: ScbaF: Pd, Pp/SaF: Pd, Pp: AScba Escape: GmFOv/ScbaE		
Incompatibilities and Reactivities: Oxidizers, catalysts for vinyl polymers, peroxides, strong acids, aluminum chloride [Note: May polymerize if contaminated or subjected to heat. Usually contains an inhibitor such as tert-butylcatechol.]				
Exposure Routes, Symptoms, Target Organs (see Table 5): ER: Inh, Abs, Ing, Con SY: Irrit eyes, nose, resp sys; head, lass, dizz, conf, mal, drow, unsteady gait; narco; defatting derm; possible liver inj; repro effects TO: Eyes, skin, resp sys, CNS, liver, repro sys			First Aid (see Table 6): Eye: Irr immed Skin: Water flush Breath: Resp support Swallow: Medical attention immed	

EMERGENCY RESPONSE GUIDEBOOK

- The Emergency Response Guidebook (ERG) is primarily a guide to aid first responders in quickly identifying the specific or generic hazards of the material(s) involved in the incident, and protecting themselves and the general public during the initial response phase of the incident.

Before an emergency – **Become familiar with this guidebook!**



VIDEO: HOW TO USE THE 2020 ERG



Scan QR code to playback video from your smart device.

**OVERVIEW OF THE
EMERGENCY RESPONSE GUIDEBOOK (ERG) 2020**

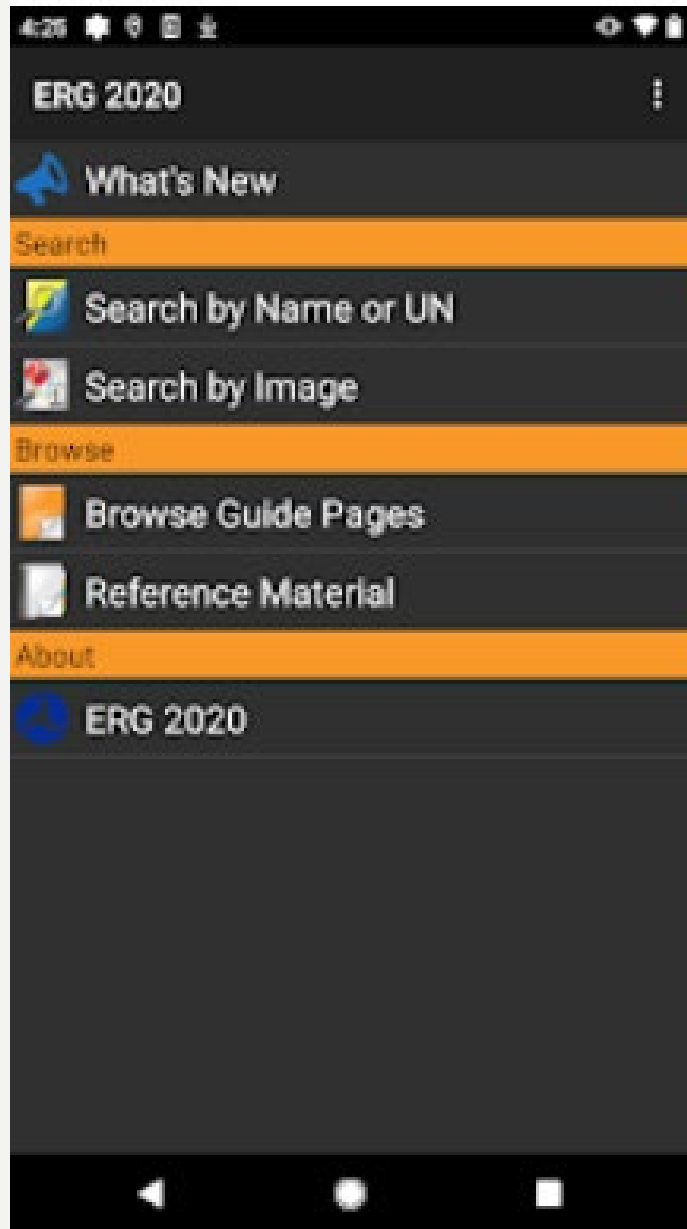
Length: 8:11 minutes

ERG MOBILE APP

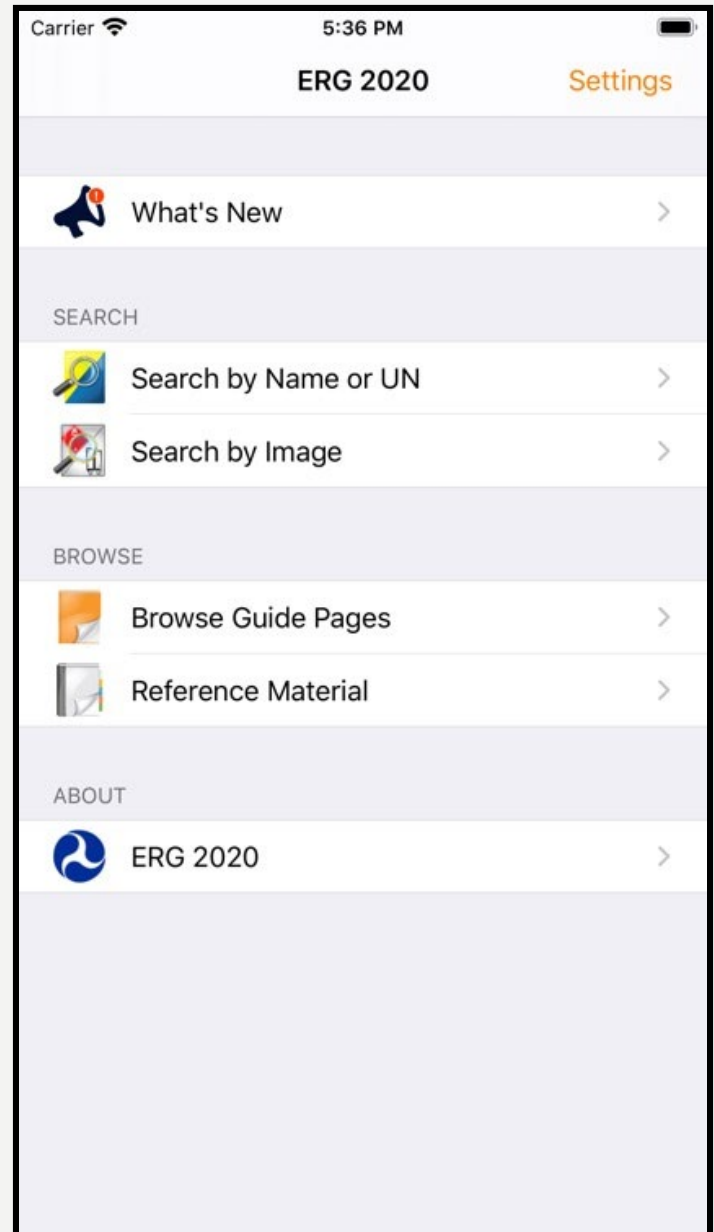
Free!!

Download the ERG onto your smartphone or tablet by scanning the QR code below.





Android phone



Apple phone

Overview Of the ERG

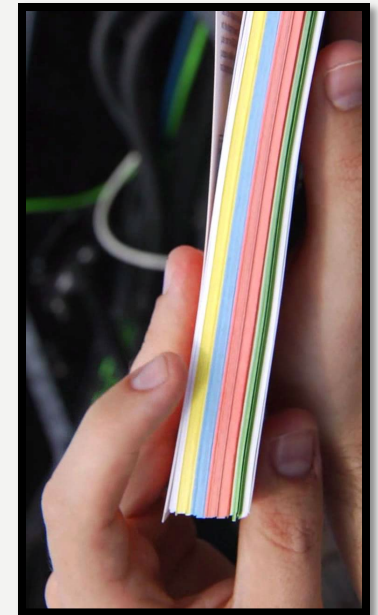
The four main sections are:

–**YELLOW** section (ID numbers)

–**BLUE** section (names of material)

–**ORANGE** section (guide pages)

–**GREEN** section (initial isolation and protective action distances for highlighted substances)



Additional Sections

Other ERG sections, not covered in the presentation, but suggested for reading:

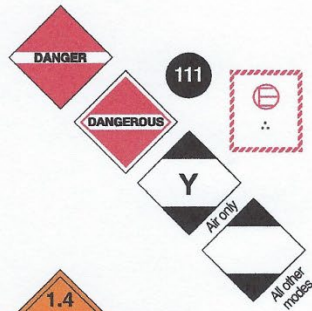
- Shipping Documents (inside front page cover)
- Safety Precautions (page 4)
- Hazard Classification System (page 6)
- Rail Car/ Road Trailer ID Charts (pages 10-14)
- Globally Harmonized System (pages 16-17)
- Hazard Identification Numbers Displayed on some Intermodal Containers (pages 18-21)

Table of Placards and labels

- The different placards used in the transport of dangerous goods are found on pages 8 - 9 of the ERG.
- Each group of placards is associated to a 3-digit guide number (**ORANGE** section).

Caution: The recommended guides should be considered as a last resort if the material cannot be identified by any other means.

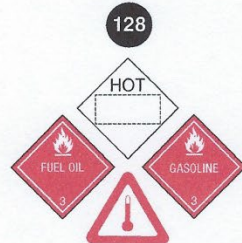
TABLE OF MARKINGS, LABELS, AND PLACARDS
 USE THIS TABLE ONLY IF MATERIALS CANNOT BE SPECIFICALLY IDENTIFIED BY



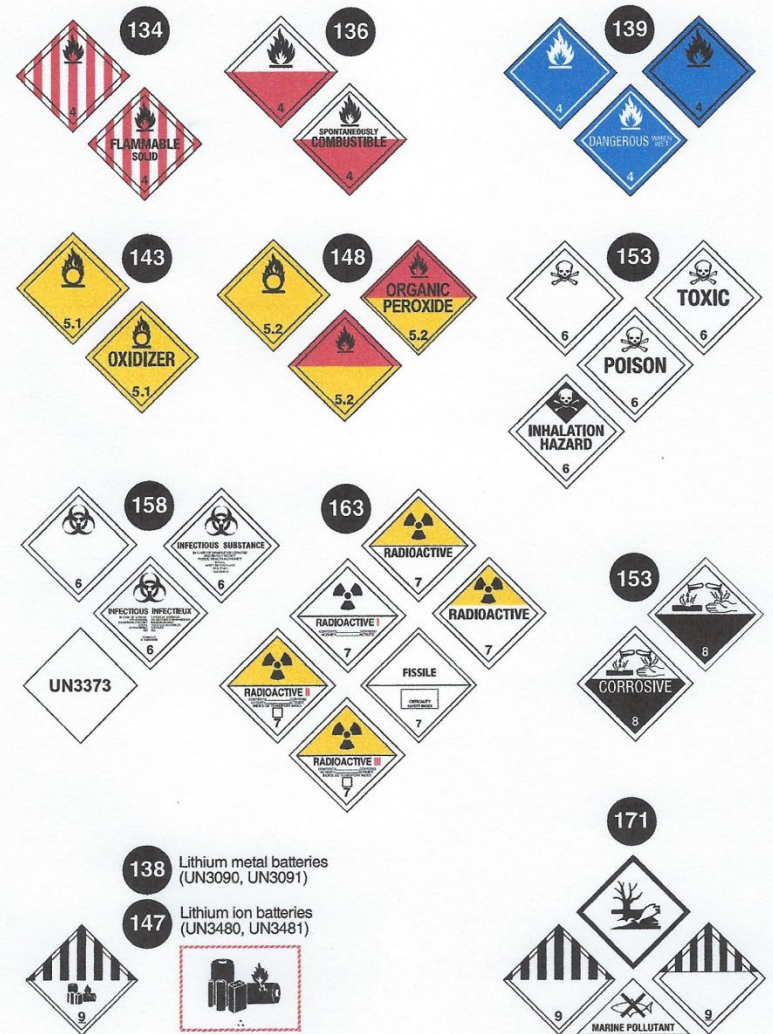
For Divisions 1.1, 1.2, 1.3 and 1.5, enter division number (**) and compatibility group letter(*), when required.



For Divisions 1.4 and 1.6, enter compatibility group letter(*), when required.



AND INITIAL RESPONSE GUIDE TO USE ON-SCENE
 USING THE SHIPPING PAPER, NUMBERED PLACARD, OR ORANGE PANEL NUMBER



Rail Car & Road Trailer ID Charts

- Pages 10 - 14 of the ERG depict the general shapes of railcars and road trailers used in the transportation of dangerous goods.
- Each shape is associated to a 3-digit guide number (**ORANGE** section).

Caution: The recommended guides should be considered as a last resort if the material cannot be identified by any other means.

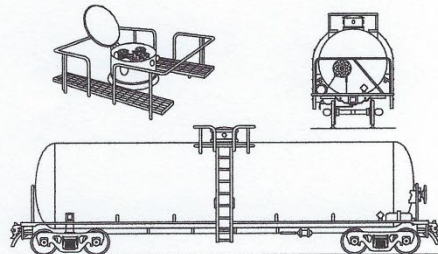
RAIL CAR IDENTIFICATION CHART

CAUTION: Emergency response personnel must be aware that rail tank cars vary widely in construction, fittings and purpose. Tank cars could transport products that may be solids, liquids or gases. The products may be under pressure. It is essential that products be identified by consulting shipping papers or train consist or contacting dispatch centers before emergency response is initiated. The information stenciled on the sides or ends of tank cars, as illustrated below, may be used to identify the product utilizing:

- the commodity name shown;
- the other information shown, especially reporting marks and car number which, when supplied to a dispatch center, will facilitate the identification of the product.

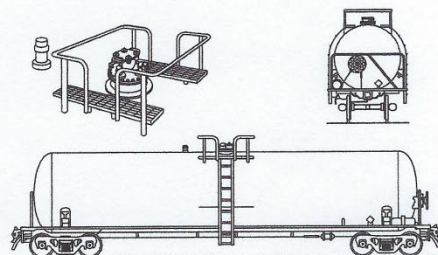
The recommended guides should be considered as last resort if the material cannot be identified by any other means.

117 Pressure tank car



- For flammable, non-flammable, toxic and/or liquefied compressed gases
- Protective housing
- No bottom fittings
- Pressures usually above 40 psi

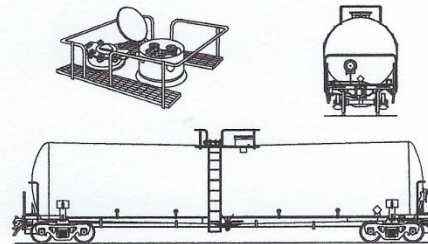
131 Non-pressure / low pressure tank car



- Known as general service tank car
- For variety of hazardous and non-hazardous materials
- Fittings and valves normally visible at the top of the tank
- Some may have bottom outlet valve
- Pressures usually below 25 psi

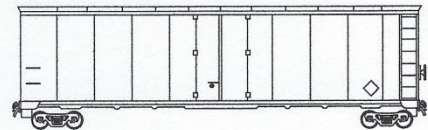
RAIL CAR IDENTIFICATION CHART

128 Non-pressure / low pressure tank car (TC117, DOT117)



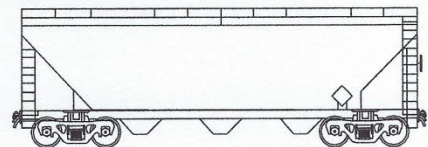
- For flammable liquids (e.g., Petroleum crude oil, ethanol)
- Protective housing separate from manway
- Bottom outlet valve
- Pressures usually below 25 psi

111 Box car



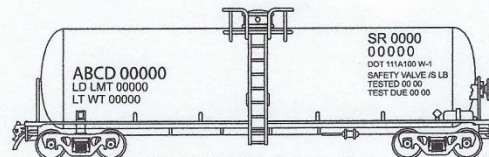
- For general freight that carry bulk or non-bulk packages
- May transport hazardous materials/dangerous goods in small packages or "tote bins"
- Single or double sliding door

140 Hopper car



- For bulk commodities and bulk cargo (e.g., coal, ore, cement and solid granular materials)
- Bulk lading discharged by gravity through the hopper bottom doors when doors opened

COMMON MARKINGS ON RAIL CARS: reporting marks and car number, load limit (pounds or kilograms), empty weight of car, placard, tank qualification and pressure relief device information, car specification, and commodity name.



GENERAL SERVICE TANK CARS



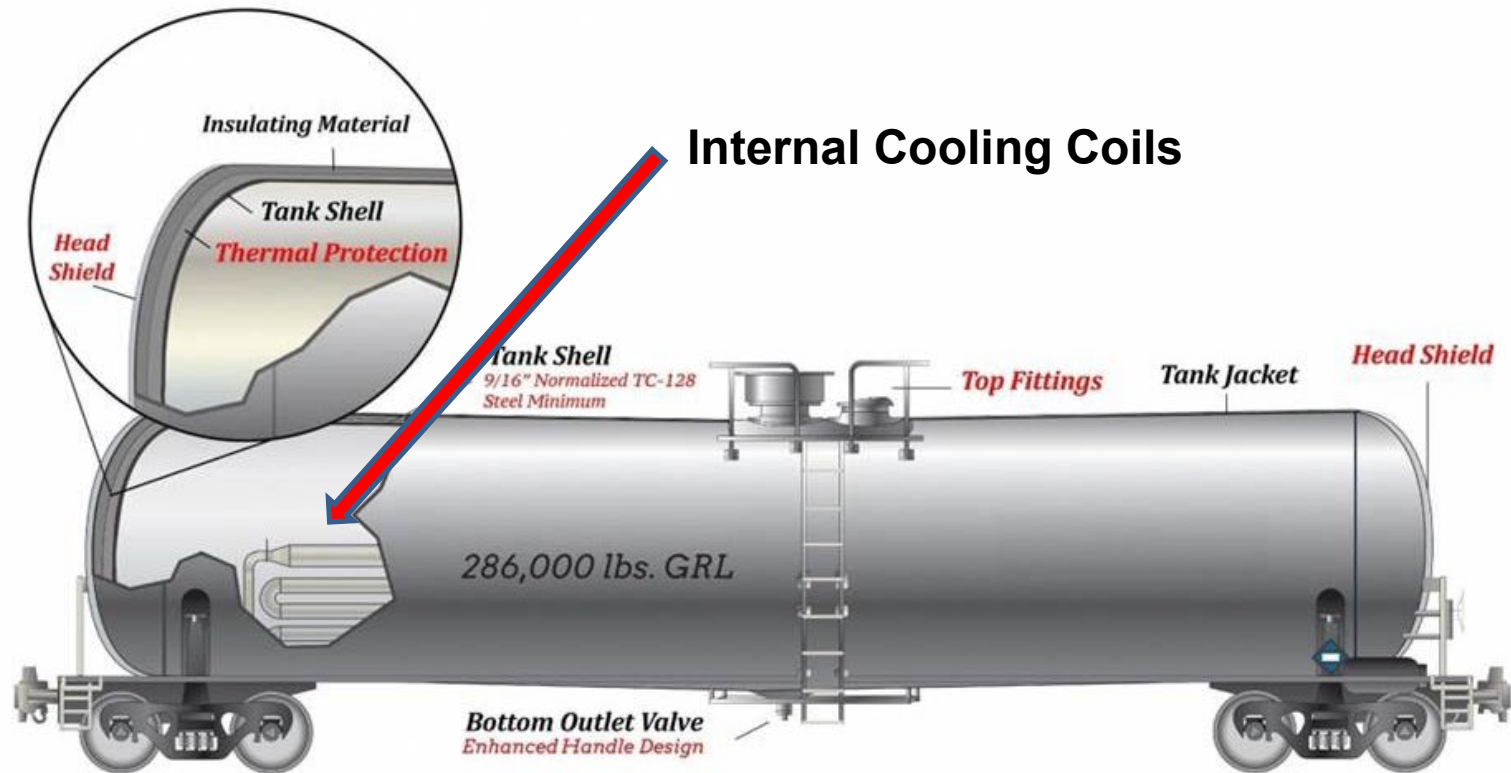
Pressure relief device reduces the pressure inside the car and acts as a thermal protection system in case of a derailment and fire.

The **tank shell** holds the product and thicker tank material improves puncture resistance

Head shields improve puncture resistance in a derailment

Bottom fittings and Bottom outlet protection

DOT 117 SPECIFICATION CAR



Safety enhancements of DOT Specification 117 Tank Car:

Full-height ½ inch thick head shield

Tank shell thickness increased to 9/16 inch minimum TC-128 Grade B, normalized steel

Thermal protection

Minimum 11-gauge jacket

Top fittings protection

Enhanced bottom outlet handle design to prevent unintended actuation during a train accident

ROAD TRAILER IDENTIFICATION CHART

CAUTION: This chart depicts only the most general shapes of road trailers and cargo transport units. Emergency response personnel must be aware that there are many variations of road trailers, not illustrated below, that are used for shipping chemical products. Many intermodal tanks that transport liquids, solids, liquefied compressed gases, and refrigerated liquefied gases have similar silhouettes. The suggested guides are for the most hazardous products that may be transported in these trailer types.

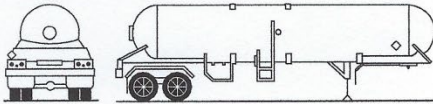
WARNING: Road trailers may be jacketed, the cross-section may look different than shown and external ring stiffeners would be invisible.

NOTE: An emergency shut-off valve is commonly found at the front of the tank, near the driver door.

The recommended guides should be considered as last resort if the material cannot be identified by any other means.

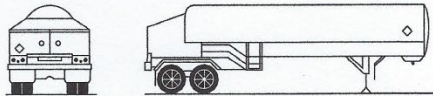
MAWP: Maximum Allowable Working Pressure.

117 MC331, TC331, SCT331



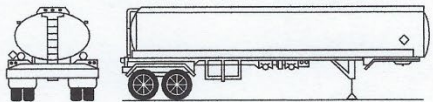
- For liquefied compressed gases (e.g., LPG, ammonia)
- Rounded heads
- Design pressure between 100-500 psi

117 MC338, TC338, SCT338, TC341, CGA341



- For refrigerated liquefied gases (cryogenic liquids)
- Similar to a "giant thermo-bottle"
- Fitting compartments located in a cabinet at the rear of the tank
- MAWP between 25-500 psi

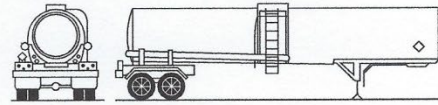
131 DOT406, TC406, SCT306, MC306, TC306



- For flammable liquids (e.g., gasoline, diesel)
- Elliptical cross-section
- Rollover protection at the top
- Bottom outlet valves
- MAWP between 3-15 psi

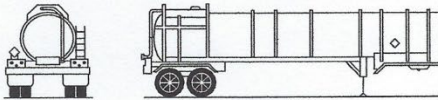
ROAD TRAILER IDENTIFICATION CHART

137 DOT407, TC407, SCT307, MC307, TC307



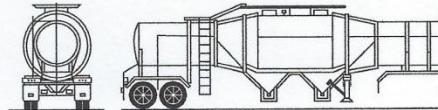
- For toxic, corrosive, and flammable liquids
- Circular cross-section
- May have external ring stiffeners
- MAWP of at least 25 psi

137 DOT412, TC412, SCT312, MC312, TC312



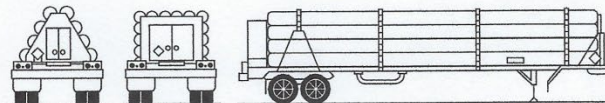
- Usually for corrosive liquids
- Circular cross-section
- External ring stiffeners
- Tank diameter is relatively small
- MAWP of at least 15 psi

112 TC423



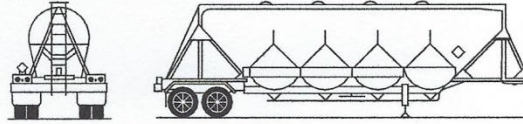
- For emulsion and water-gel explosives
- Hopper-style configuration
- MAWP between 5-15 psi

117 Compressed Gas/Tube Trailer

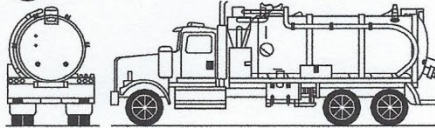


ROAD TRAILER IDENTIFICATION CHART

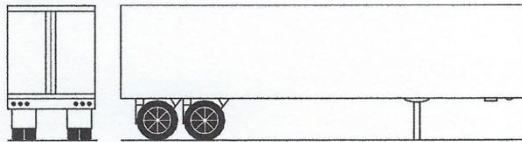
134 Dry Bulk Cargo Trailer



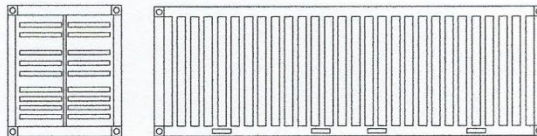
137 Vacuum Tanker



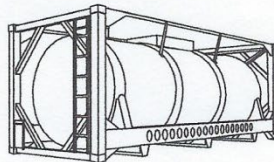
111 Mixed Cargo

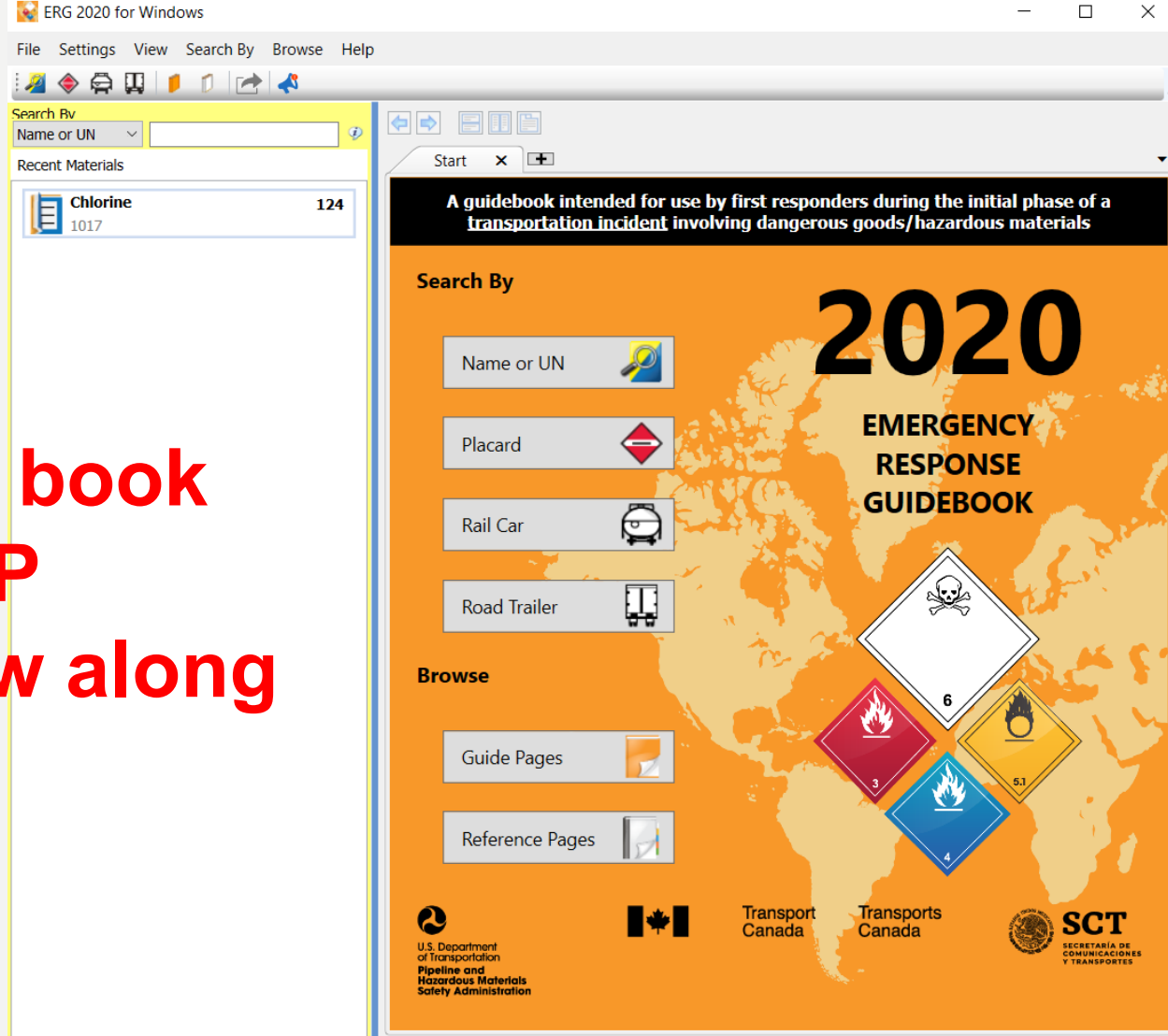


111 Intermodal Freight Container



117 Intermodal Tank





**USE your book
or the APP
And follow along**

[HTTPS://WWW.PHMSA.DOT.GOV/HAZMAT/ERG/ERG2020-MOBILEAPP](https://www.phmsa.dot.gov/HAZMAT/ERG/ERG2020-MOBILEAPP)

WHAT IS INSIDE THIS TANKER?



Styrene is chemically known as vinyl benzene

ERG

- Look up **Styrene**

- How did you find it?

Yellow section

Blue Section

ID No.	Guide No.	Name of Material	ID No.	Guide No.	Name of Material
2038	152	Dinitrotoluenes, liquid	2079	154	Diethylenetriamine
2044	115	2,2-Dimethylpropane	2186	125	Hydrogen chloride, refrigerated liquid
2045	130	Isobutyl aldehyde	2187	120	Carbon dioxide, refrigerated liquid
2045	130	Isobutyraldehyde	2188	119	Arsine
2046	130	Cymenes	2189	119	Dichlorosilane
2047	129	Dichloropropenes	2190	124	Oxygen difluoride
2048	130P	Dicyclopentadiene	2190	124	Oxygen difluoride, compressed
2049	130	Diethylbenzene	2191	123	Sulfuryl fluoride
2050	128	Diisobutylene, isomeric compounds	2191	123	Sulphuryl fluoride
2051	132	2-Dimethylaminoethanol	2192	119	Germane
2052	128	Dipentene	2193	126	Hexafluoroethane
2053	129	Methylamyl alcohol	2193	126	Hexafluoroethane, compressed
2053	129	Methyl isobutyl carbonyl sulfide	2193	126	Refrigerant gas R-116
2054	132	Morpholine	2193	126	Refrigerant gas R-116, compressed
2055	128P	Styrene monomer, stabilized	2194	125	Selenium hexafluoride
2056	127	Tetrahydrofuran	2195	125	Tellurium hexafluoride
2057	128	Tripropylene	2196	125	Tungsten hexafluoride
2058	129	Valeraldehyde	2197	125	Hydrogen iodide, anhydrous
2059	127	Nitrocellulose, solution, flammable	2198	125	Phosphorus pentafluoride
2067	140	Ammonium nitrate based fertilizer	2198	125	Phosphorus pentafluoride, compressed
2071	140	Ammonium nitrate based fertilizer	2199	119	Phosphine
2073	125	Ammonia, solution, with more than 35% but not more than 50% Ammonia	2200	116P	Propadiene, stabilized
2074	153P	Acrylamide, solid	2201	122	Nitrous oxide, refrigerated liquid
2075	153	Chloral, anhydrous, stabilized	2202	117	Hydrogen selenide, anhydrous
2076	153	Cresols, liquid	2203	116	Silane
2077	153	alpha-Naphthylamine	2203	116	Silane, compressed
2077	153	Naphthylamine (alpha)	2204	119	Carbonyl sulfide
2078	156	Toluene diisocyanate	2204	119	Carbonyl sulphide
			2205	153	Adiponitrile

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Solids containing corrosive liquid, n.o.s.	154	3244	Substituted nitrophenol pesticide, liquid, toxic, flammable	131	3013
Solids containing flammable liquid, n.o.s.	133	3175	Substituted nitrophenol pesticide, solid, poisonous	153	2779
Solids containing poisonous liquid, n.o.s.	151	3243	Substituted nitrophenol pesticide, solid, toxic	153	2779
Solids containing toxic liquid, n.o.s.	151	3243	Sulfamic acid	154	2967
Soman	153	—	Sulfur	133	1350
Stannic chloride, anhydrous	137	1827	Sulfur, molten	133	2448
Stannic chloride, pentahydrate	154	2440	Sulfur chlorides	137	1828
Stannic phosphides	139	1433	Sulfur dioxide	125	1079
Stibine	119	2676	Sulfur hexafluoride	126	1080
Straw, wet, damp or contaminated with oil	133	1327	Sulfuric acid	137	1830
Strontium arsenite	151	1691	Sulfuric acid, fuming	137	1831
Strontium chlorate	143	1506	Sulfuric acid, spent	137	1832
Strontium nitrate	140	1507	Sulfuric acid, with more than 51% acid	137	1830
Strontium perchlorate	140	1508	Sulfuric acid, with not more than 51% acid	157	2796
Strontium peroxide	143	1509	Sulfuric acid and Hydrofluoric acid mixture	157	1786
Strontium phosphide	139	2013	Sulfurous acid	154	1833
Strychnine	151	1692	Sulfur tetrafluoride	125	2418
Strychnine salts	151	1692	Sulfur trioxide, stabilized	137	1829
Styrene monomer, stabilized	128P	2055	Sulfuryl chloride	137	1834
Substituted nitrophenol pesticide, liquid, flammable, poisonous	131	2780	Sulfuryl fluoride	123	2191
Substituted nitrophenol pesticide, liquid, flammable, toxic	131	2780	Sulphamic acid	154	2967
Substituted nitrophenol pesticide, liquid, poisonous	153	3014	Sulphur	133	1350
Substituted nitrophenol pesticide, liquid, poisonous, flammable	131	3013	Sulphur, molten	133	2448
Substituted nitrophenol pesticide, liquid, toxic	153	3014	Sulphur chlorides	137	1828
			Sulphur dioxide	125	1079
			Sulphur hexafluoride	126	1080
			Sulphuric acid	137	1830
			Sulphuric acid, fuming	137	1831

ALSO, CONTROL F IF USING THE PDF

The screenshot shows the 'ERG 2020 for Windows' application. On the left, a search sidebar is highlighted with a yellow arrow. It features a search bar labeled 'Search By' with a dropdown menu set to 'Name or UN'. Below the search bar, a list of 'Recent Materials' is shown, with 'Chlorine 1017' listed next to the number '124'. The main window displays the cover of the '2020 EMERGENCY RESPONSE GUIDEBOOK'. The cover text reads: 'A guidebook intended for use by first responders during the initial phase of a transportation incident involving dangerous goods/hazardous materials'. The cover includes search options: 'Name or UN', 'Placard', 'Rail Car', and 'Road Trailer'. It also has browse options: 'Guide Pages' and 'Reference Pages'. The cover features a world map background with four hazard diamonds: a white diamond with a skull and crossbones (6), a red diamond with a flame (3), a blue diamond with a flame (4), and a yellow diamond with a flame (5.1). Logos for the U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration, Transport Canada, and the Canadian government (SCT) are at the bottom.

Guide Pages

GUIDE 128 FLAMMABLE LIQUIDS (WATER-IMMISCIBLE)

POTENTIAL HAZARDS

FIRE OR EXPLOSION

- **HIGHLY FLAMMABLE:** Will be easily ignited by heat, sparks or flames.
- Vapors may form explosive mixtures with air.
- Vapors may travel to source of ignition and flash back.
- Most vapors are heavier than air. They will spread along the ground and collect in low or confined areas (sewers, basements, tanks, etc.)
- Vapor explosion hazard indoors, outdoors or in sewers.
- Those substances designated with a (P) may polymerize explosively when heated or involved in a fire.
- Runoff to sewer may create fire or explosion hazard.
- Containers may explode when heated.
- Many liquids will float on water.
- Substance may be transported hot.
- For hybrid vehicles, GUIDE 147 (lithium ion batteries) or GUIDE 138 (sodium batteries) should also be consulted.
- **If molten aluminum is involved, refer to GUIDE 169.**

HEALTH

- CAUTION:** Petroleum crude oil (UN1267) may contain **TOXIC** hydrogen sulphide gas.
- Inhalation or contact with material may irritate or burn skin and eyes.
 - Fire may produce irritating, corrosive and/or toxic gases.
 - Vapors may cause dizziness or asphyxiation.
 - Runoff from fire control or dilution water may cause environmental contamination.

PUBLIC SAFETY

- **CALL 911. Then call emergency response telephone number on shipping paper.** If shipping paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.
- Keep unauthorized personnel away.
- Stay upwind, uphill and/or upstream.
- Ventilate closed spaces before entering, but only if properly trained and equipped.

PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing provides thermal protection **but only limited chemical protection.**

EVACUATION

Immediate precautionary measure

- Isolate spill or leak area for at least 50 meters (150 feet) in all directions.

Large Spill

- Consider initial downwind evacuation for at least 300 meters (1000 feet).

Fire

- If tank, rail car or tank truck is involved in a fire, **ISOLATE** for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.



In Canada, an Emergency Response Assistance Plan (ERAP) may be required for this product. Please consult the shipping paper and/or the ERAP Program Section (page 390).

FLAMMABLE LIQUIDS (WATER-IMMISCIBLE) GUIDE 128

EMERGENCY RESPONSE

FIRE

CAUTION: The majority of these products have a very low flash point. Use of water spray when fighting fire may be inefficient.

CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective.

Small Fire

- Dry chemical, CO₂, water spray or regular foam.

Large Fire

- Water spray, fog or regular foam.
- Avoid aiming straight or solid streams directly onto the product.
- If it can be done safely, move undamaged containers away from the area around the fire.

Fire Involving Tanks or Car/Trailer Loads

- Fight fire from maximum distance or use unmanned master stream devices or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- For petroleum crude oil, do not spray water directly into a breached tank car. This can lead to a dangerous boil over.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- **ALWAYS** stay away from tanks engulfed in fire.
- For massive fire, use unmanned master stream devices or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

SPILL OR LEAK

- **ELIMINATE** all ignition sources (no smoking, flares, sparks or flames) from immediate area.
- All equipment used when handling the product must be grounded.
- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.
- Prevent entry into waterways, sewers, basements or confined areas.
- A vapor-suppressing foam may be used to reduce vapors.
- Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
- Use clean, non-sparking tools to collect absorbed material.

Large Spill

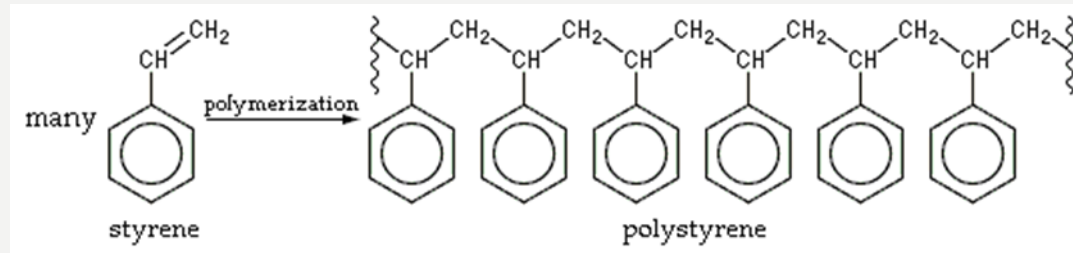
- Dike far ahead of liquid spill for later disposal.
- Water spray may reduce vapor, but may not prevent ignition in closed spaces.

FIRST AID

- Call 911 or emergency medical service.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
- Move victim to fresh air if it can be done safely.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Wash skin with soap and water.
- In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin.
- Keep victim calm and warm.

“P”: POLYMERIZATION HAZARD

ERG page 381







**The video originally on this slide
can be viewed here
<https://youtu.be/8vbXWicb3BI>**

How do you decide on road closure locations and perimeter distances to evacuate?

Let's run the map using ERG

Location near Harvill and Oleander avenues
Perris California

DEMO

Styrene monomer, stabilized

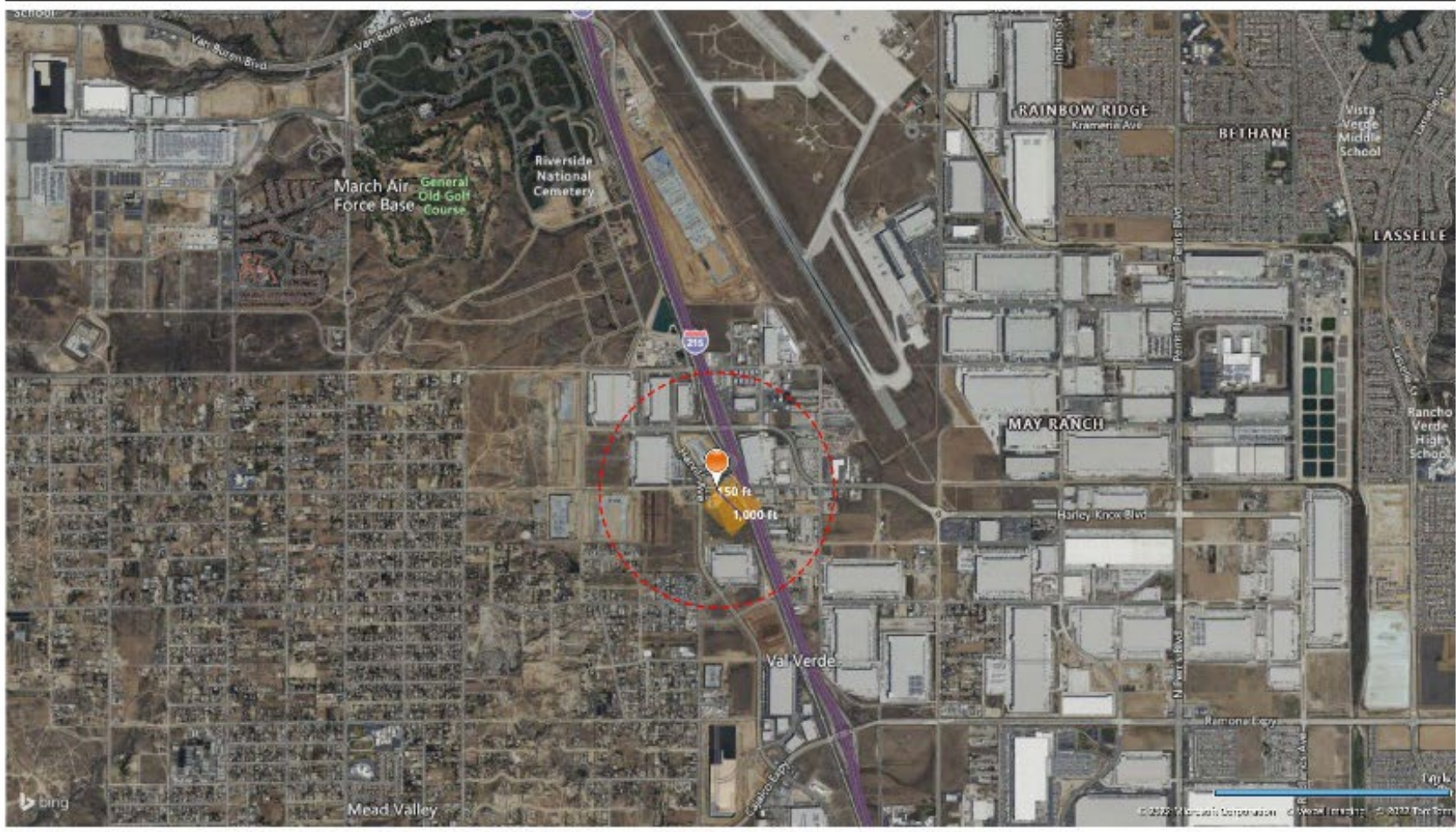
UN/NA: 2055

Spill Location: 33.8587555602455,-117.260220849588

Spill Size: Large

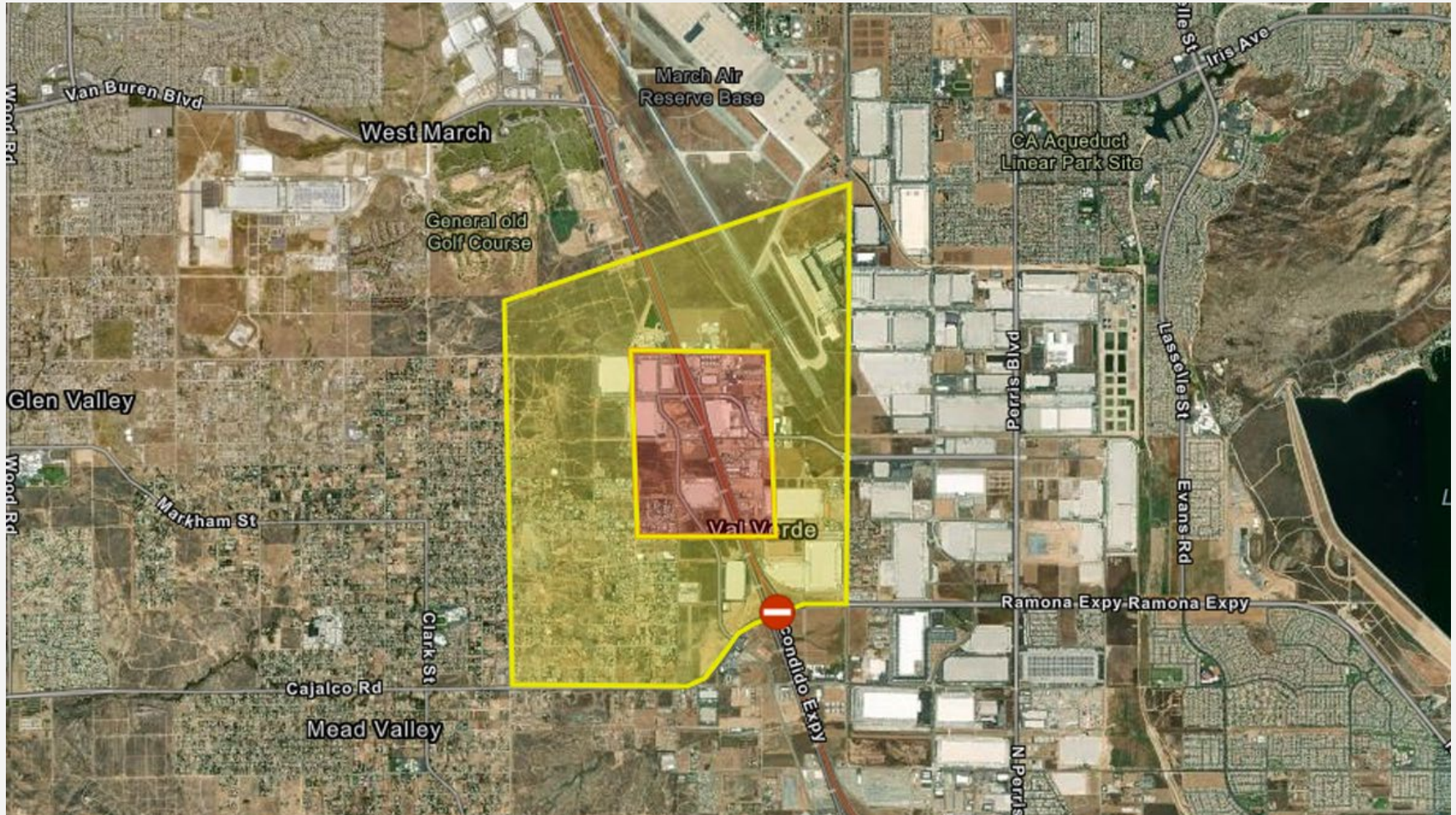
Time of Day: Night

Immediately ISOLATE 150 ft in all directions, then consider initial EVACUATION 1,000 ft downwind



Printed by ERG for Windows - PHMSA, U.S. Department of Transportation (DOT)

PUBLISHED MAP



Mandatory (in red) and recommended (in yellow) evacuation areas are in place around a leaking tank car of styrene near Perris, Calif.
(Cal Fire/Riverside County Fire Department)

WISER

FREE



- <http://wiser.nlm.nih.gov>
- Mobile support - Computer/Cell
 - WISER currently exists as a Stand-alone mobile application for IOS and Android devices
 - Microsoft Windows PC application
 - Web application (WebWISER)
- Identification of an unknown substance and actions
- Substances from NLM's Hazardous Substances Data Bank ([HSDB](#)) which contains detailed information on over 6,060 critical hazardous substances

As of October 21, 2021, version 6.2

WISER Intro Video



WISER FEATURES

**Key Information for Emergency Responders
on almost 450 hazardous substances:**

- Chemicals
- Radiological Isotopes
- Biologicals
- Tool to Identify Unknown Chemicals

WISER FEATURES

Supplemental Materials:

- Triage Tools
- Radiation Event Response Guides and Tools
- Comprehensive electronic version of Emergency Response Guidebook
- WMD Response Guidebook
- Available for most smart phones and desktop computers
- Available online: [WebWISER](#)

WHY USE WISER?

- Designed specifically for Emergency Responders
- Easy to use
- Peer reviewed information maintained by the U.S. National Library of Medicine
- Free!!



**Wireless Information System
for Emergency Responders**

**The video originally on this slide
can be viewed here
<https://youtu.be/kKd-FEEaZQ>**

**The video originally on this slide
can be viewed here
<https://youtu.be/fFwuGmummF0>**

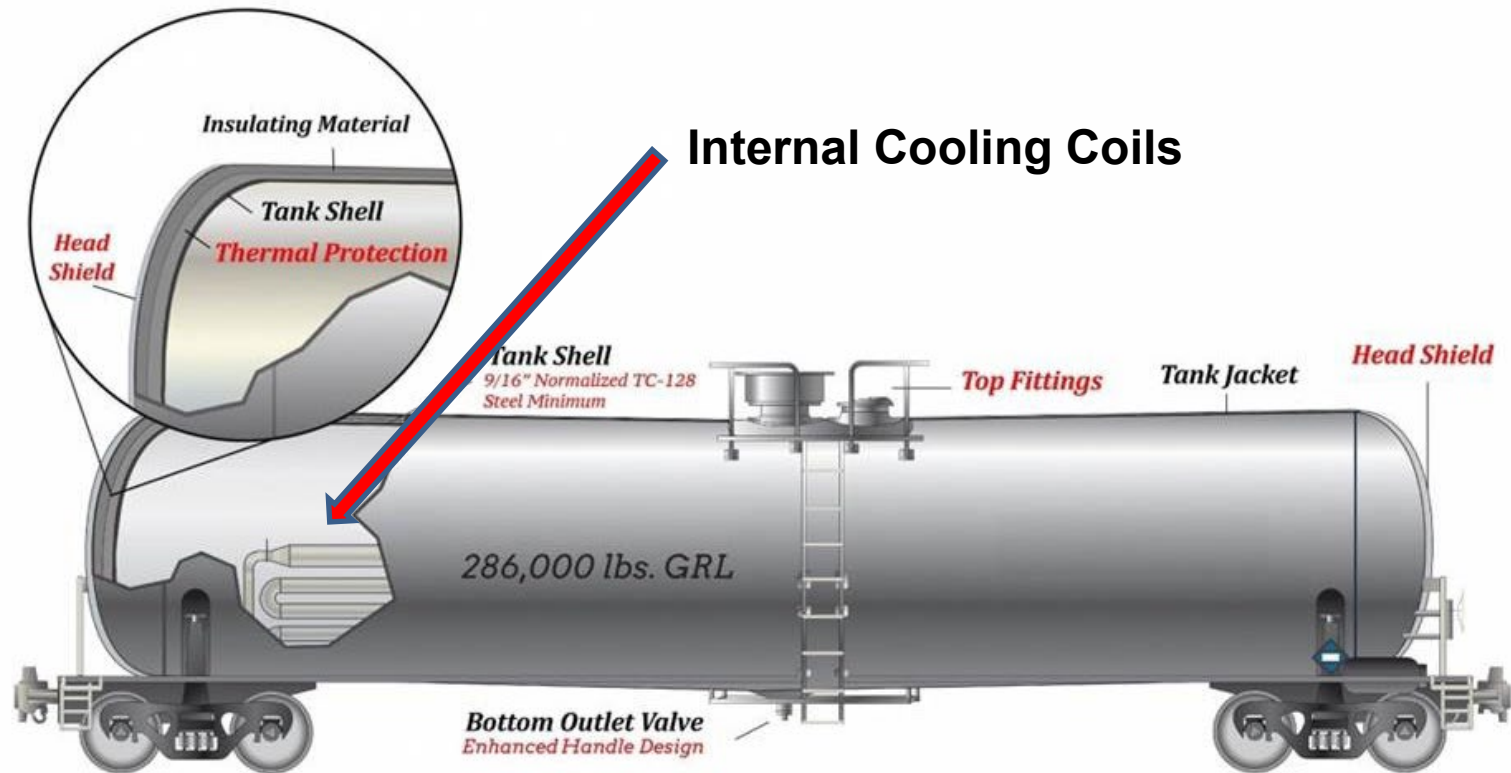
STATUS AS OF 8/13 SATURDAY @ 8AM

- All evacuation orders were lifted Saturday morning after fire officials determined the hazardous, leaking contents of a railcar near Perris were no longer an imminent threat, authorities said.
- Most residents, save for two homes, were allowed to return to their homes on Friday night.

STATUS AS OF 8/13 @ 8AM

- The temperature of the rail car, which at one point was as high as 323 degrees, was down to 265 degrees, Cal Fire Capt. Richard Cordova said Saturday morning.
- “We found there was a cooling mechanism on that train,” Cordova said. “We hooked some hoses to it and that’s how we’ve been able to cool down the rail car.”
- There was an estimated 138,000 pounds of the chemical inside the car, Cordova said.

DOT 117 SPECIFICATION CAR



Safety enhancements of DOT Specification 117 Tank Car:

Full-height ½ inch thick head shield

Tank shell thickness increased to 9/16 inch minimum TC-128 Grade B, normalized steel

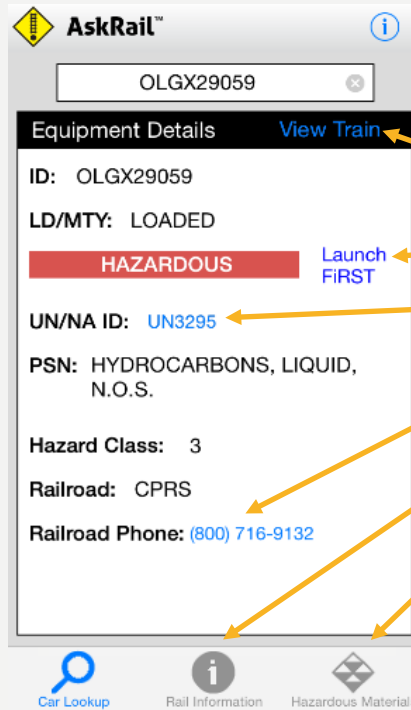
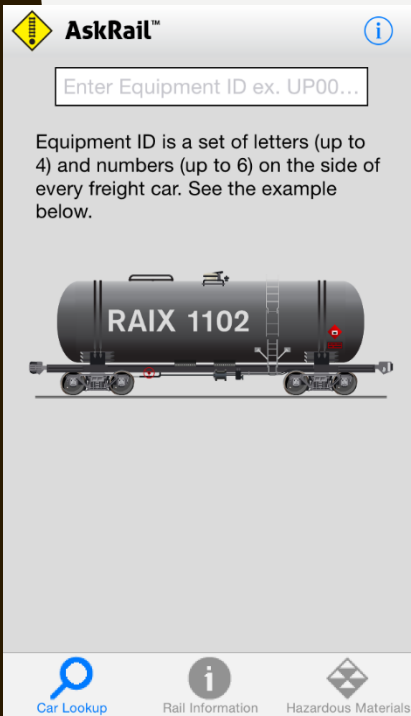
Thermal protection

Minimum 11-gauge jacket

Top fittings protection

Enhanced bottom outlet handle design to prevent unintended actuation during a train accident

ASK RAIL



App Links Include:

- <https://askrail.us>
- View Train
- Links to FiRST
- Links to Guide # in the ERG
- Direct Dial Link
- Railroad Contact Information
- Hazardous Materials:
 - Top 125
 - ERG Guides
 - ERG Contacts
 - List of Hazardous Materials

AskRail™ is a free mobile application that provides immediate access to accurate, near real-time information about railcars carrying hazardous materials on a train. It serves emergency responders who arrive first to the scene of a rail incident and helps them make informed decisions about how to respond to a rail incident. The app has two levels of functionality, depending on user permission: Single Car Lookup and Consist Lookup.

REQUEST THE APP

- For security reasons, only qualified emergency responders who have completed rail emergency training sponsored by one of the Class I freight railroads or at the Security and Emergency Response Training Center (SERTC) can download and use the restricted features in the AskRail app.
- In addition, railroads can offer the app to known emergency responders along their routes.
 - 1) Download the app from the Google Play store or the Apple App Store.
 - 2) Complete the registration process in the app on your device.
 - 3) You will receive an email notification once your registration has been approved. The approval process may take up to several weeks.
 - 4) Once you have been approved to use the app, the app will become fully functional and ready for use.

VERIFYING THE HAZMAT



020	CBTX 743308	L	T32	CRDOIL	TB052	05-840-05	STJAMES, LA	ST JAM RAI	60	138 T	60 ft
	87 FROM HEAD		Platforms:	1	Brakes:	1.0				2,719 T	1,198 ft

	* DANGEROUS *										

	EMERGENCY CONTACT:										
	8004249300										
	1/EC, 2010/1/LB										
	UN1267										
	PETROLEUM CRUDE OIL										
	3										
	PG I										
	TN=(PETROLEUM CRUDE OIL)										
	SHIPPER CONTACT										
	CHEMTREC (CCN 681568)										
	HAZMAT STCC = 4910165										

RAILROAD SHIPPING PAPERS

Cars listed in order



SEQ	EQUIPMT ID	KND	COMDTY	DESTN	ZTS/CARR	NXBLK	CITY/STATE	CONSIGNEE
POWER BLOCK BNSF004711 BLOCK-- INDI1 TB052 INDU 115								
1	BNSF 808331	LC4T	INDSND	TB052	05-840-55		STJAMES LA	ST JAM RAI
	106	FROM HEAD	60-MPH	117-TONS	58-FT 1-P		1.00-BRK	117-ATONS
	58-AFT							
2	CBTX 743322	LT32	CRDOIL	TB052	05-840-55		STJAMES LA	ST JAM RAI
	105	FROM HEAD	60-MPH	139-TONS	60-FT 1-P		1.00-BRK	256-ATONS
	118-AFT							
	***** * DANGEROUS ***** EMERGENCY CONTACT: 8004249300							
	1/TC, 201630/LB UN1267 PETROLEUM CRUDE OIL 3 PG I TN=(PETROLEUM CRUDE OIL) SHIPPER CONTACT CHEMTREC (CCN 681568) HAZMAT STCC = 4910165							
SI11/12 RESTRICTION 143 TONS								
3	CBTX 742845	LT32	CRDOIL	TB052	05-840-55		STJAMES LA	ST JAM RAI
	104	FROM HEAD	60-MPH	138-TONS	60-FT 1-P		1.00-BRK	394-ATONS
	178-AFT							
	***** * DANGEROUS * ***** EMERGENCY CONTACT: 8004249300							
	1/TC, 200619/LB UN1267 PETROLEUM CRUDE OIL 3 PG I TN=(PETROLEUM CRUDE OIL) SHIPPER CONTACT CHEMTREC (CCN 681568) HAZMAT STCC = 4910165							
SI11/12 RESTRICTION 143 TONS								
4	CBTX 743319	LT32	CRDOIL	TB052	05-840-55		STJAMES LA	ST JAM RAI
	103	FROM HEAD	60-MPH	138-TONS	60-FT 1-P		1.00-BRK	532-ATONS
	238-AFT							
	***** * DANGEROUS * ***** EMERGENCY CONTACT: 8004249300							
	1/TC, 201018/LB UN1267 PETROLEUM CRUDE OIL 3 PG I TN=(PETROLEUM CRUDE OIL) SHIPPER CONTACT CHEMTREC (CCN 681568) HAZMAT STCC = 4910165							

Box of asterisks identifies HAZMAT car

DOT Proper Shipping Name (PSN) and information

24-Hr emergency contact number for shipper

THERE IS ALWAYS HELP AVAILABLE

The local FRA Regional Office can help you obtain emergency contact information for other railroads in your area.

Cambridge, MA.....	1-800-724-5991
Philadelphia, PA	1-800-724-5992
Atlanta, GA	1-800-724-5993
Chicago, IL	1-800-724-5994
Ft. Worth, TX.....	1-800-724-5995
Kansas City, MO	1-800-724-5996
Sacramento, CA.....	1-800-724-5997
Vancouver, WA	1-800-724-5998

QUESTIONS?



**This is a
joke
Don't do it**

When you see tracks, "Always Expect a Train"!

Speaker Review

Using Decision Making Tools During an Incident or Training

<https://www.surveymonkey.com/r/5JCBG38>



In Summary, We Learned About

- Safety, Isolation and Notifications (S.I.N.)
- 2020 Emergency Response Guidebook (ERG)
- Wireless Information System for Emergency Responders (WISER)
- NIOSH Pocket guide
- Using these in an incident regarding Styrene