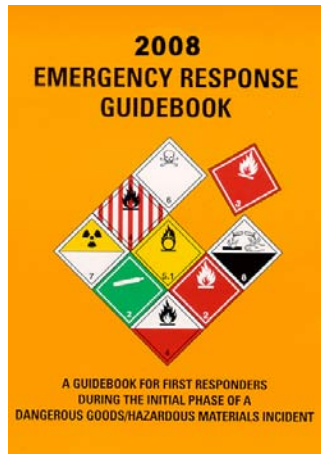


WESTBURY FIRE DEPARTMENT



HAZ-MAT AWARENESS REVIEW



BASIC HAZAROUS MATERIAL AWARENESS REVIEW

USE OF THE EMERGENCY RESPONSE GUIDE-2008

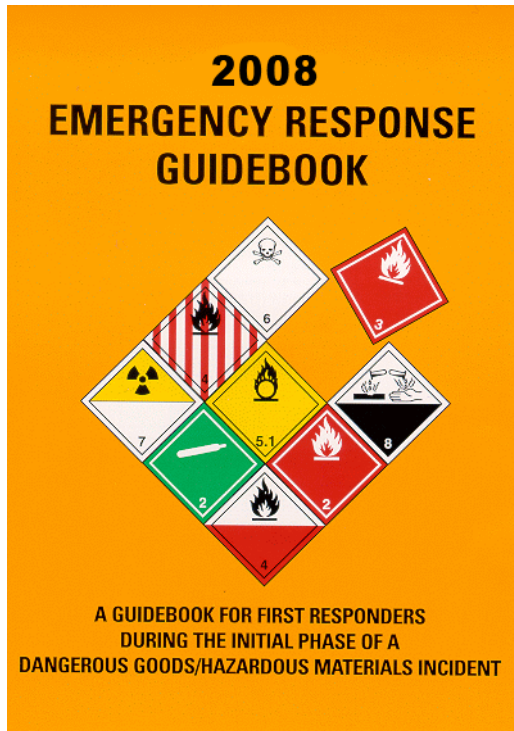
Hazardous Material Awareness Review

COURSE OBJECTIVES:

1. Review what a hazardous Material is and this Dept role at a scene
2. Review what an Emergency Response Guidebook (ERG) is,
3. Identify/Review where they can be found,
4. Identify/Review when & how they should be used to fulfill the departments objectives
5. Identify/Review the ERG's components,
6. Identify/Review the Classes of Hazardous Material,
7. Identify/Review Placards/Labels and the Hazard they display,
8. Identify/Review Container Recognition,
9. Identify how to gain further Assistance & Information, if the ERG doesn't give you enough information.



Hazardous Material Awareness Review



We have all seen an ERG,

Who here knows what it's used for ?

Who here knows where to find one ?

Who here knows how to properly use one ?

This class will explain just that

Hazardous Material Awareness Review

Why do you need to know this?



The US Dept. of Labor Occupational Safety And Health Administration (aka: OSHA)

OSHA 29 CFR 1910.120 - requires :

ALL First Responders be trained in the use of this Emergency Response Guidebook.

OSHA also requires Annual Refresher Training to the level of operation.

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Why do you need to know this?

Definition Hazardous Materials:

A hazardous material is any item or agent (biological, chemical, physical) which has the potential to cause harm to humans, animals, or the environment, either by itself or through interaction with other factors.

Hazardous Materials Warning Labels
Actual label size: at least 100 mm (3.9 inches) on all sides

<p>CLASS 1 Explosives: Divisions 1.1, 1.2, 1.3, 1.4, 1.5, 1.6</p> <p>§172.411 * Include compatibility group letter ** Include division number and compatibility group letter</p>	<p>CLASS 2 Gases: Divisions 2.1, 2.2, 2.3</p> <p>§172.405(b), §172.415, §172.416, §172.417</p>	<p>CLASS 3 Flammable Liquid</p> <p>§172.419</p>	<p>CLASS 4 Flammable Solid, Spontaneously Combustible, and Dangerous When Wet: Divisions 4.1, 4.2, 4.3</p> <p>§172.420, §172.422, §172.423</p>	<p>CLASS 5 Oxidizer, Organic Peroxide: Divisions 5.1 and 5.2</p> <p>Organic Peroxide, Transition 2011 §172.426, §172.427</p>		
<p>CLASS 6 Poison (Toxic), Poison Inhalation Hazard, Infectious Substance: Divisions 6.1 and 6.2</p> <p>For Regulated Medical Waste (RWM), an Infectious Substance label is not required on an outer packaging if the OSHA Biohazard marking is used as prescribed in 29 CFR 1910.1030(g). CDC Etiologic Agent label must be used as prescribed in 42 CFR 72.3 and 72.6. A bulk package of RWM must display a BOPWA240 marking. §172.323, §172.405(c), §172.429, §172.430, §172.432</p>	<p>CLASS 7 Radioactive</p> <p>§172.436, §172.438, §172.440, §172.441</p>	<p>CLASS 8 Corrosive</p> <p>§172.442</p>	<p>CLASS 9 Miscellaneous Hazardous Material</p> <p>§172.446</p>	<p>Subsidiary Risk Label</p> <p>§172.411</p>	<p>Cargo Aircraft Only</p> <p>§172.448</p>	
<p>Empty Label</p> <p>§172.450</p>						
HAZARDOUS MATERIALS MARKINGS						
<p>Package Orientation (Red or Black)</p> <p>§172.312(a), §172.317</p>	<p>OVERPACK</p> <p>§173.238-6(h), October 1, 2007</p>	<p>HOT</p> <p>§172.325, §172.302(a)</p>	<p>Flammable (Red or Black)</p> <p>§172.302(a) and §173.9</p>	<p>Biological Substances, Category B</p> <p>§173.199-4(b)</p>	<p>CONTAINER COMBUSTIBLE</p> <p>§172.322</p>	<p>CONTAINER COMBUSTIBLE</p> <p>§172.313(a), §172.314(a)</p>

Keep a copy of the Emergency Response Guidebook handy!

Hazardous Material Awareness Review

Why do you need to know this?

Public Safety “Duty to Act”

All Public Safety responders have a “Duty to Act” under the law.

Level of involvement, is defined by the agencies Emergency Response Plan (ERP).

Westbury FD – as with most Fire Dept. operates to the “**Operations Level**” at a Haz-Mat Incident.

What does that mean?



Hazardous Material Awareness Review

Why do you need to know this?



Five Levels of Training:

- First Responder Awareness Level
- ***First Responder Operational Level***
 - Hazardous Materials Technician
 - Hazardous Materials Specialist

broken down into specific items: Transportation, Storage, use...

- Hazardous Materials Incident Commander

*Awareness & Operations – Defense
Technicians & Specialists – Offense
IC – Head Coach*

Hazardous Material Awareness Review

Why do you need to know this?



**Our Primary Objectives at the
Operations Level is to:**

Recognition

Isolation

Protection

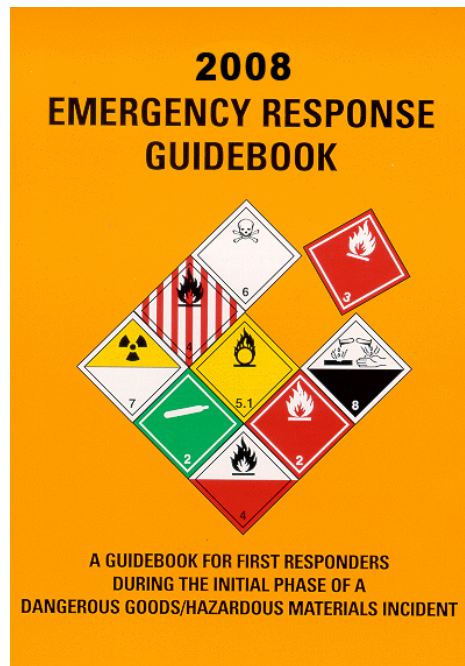
Notification

Then when needed,
Assist Tech/Specialist

Operations Level also play a vital role in the Decontamination Process
under the guidance of the Tech / Specialist

Hazardous Material Awareness Review

Why do you need to know this?

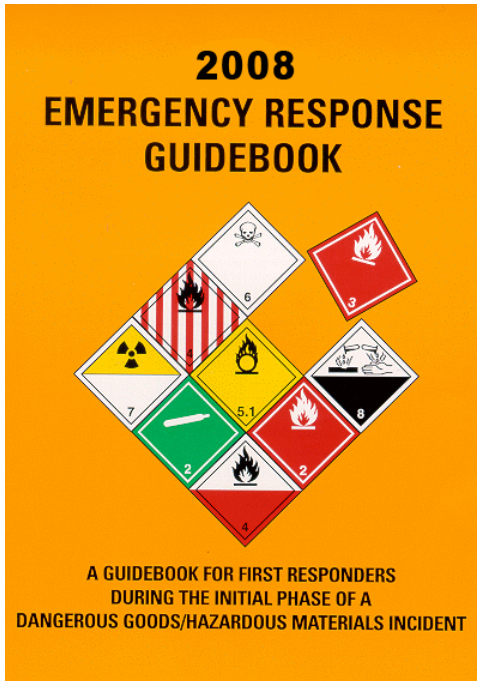


The Primary Tool we'll use to meet our objectives:

Emergency Response Guidebook

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

What is the ERG used for ?



An EGR is printed guide used in the “initial response phase” of an incident (the period following arrival on scene, and/or the identification of dangerous substance is confirmed)

then

Protective Actions and area Securement measures are initiated,

and

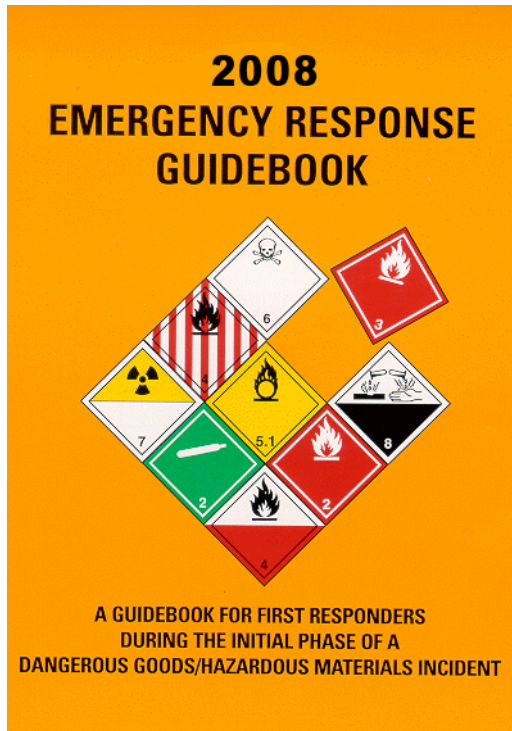
assistance from qualified personnel is requested.

Remember our Objectives:

- Recognition
- Isolation
- Protection
- Notification

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

What is the ERG used for ?



The ERG is a First Responder tool and not something a Hazmat Technician will be using to deal with an incident later.

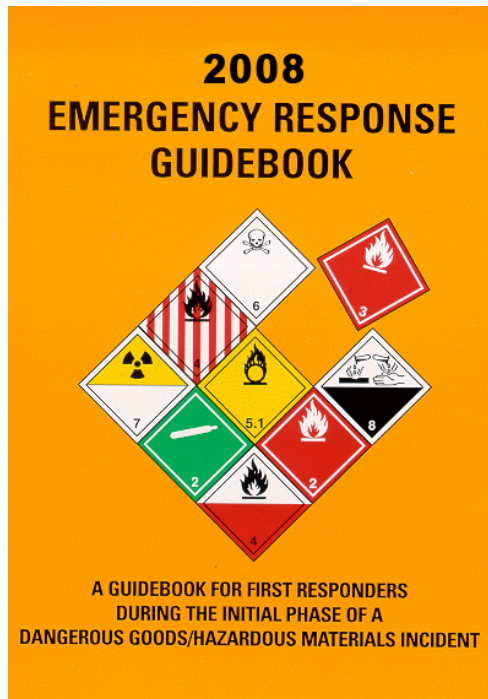
Although proper use of the ERG will make the Tech's job easier, **if the initial action plan was implemented properly.**

Especially with Proper Product Identification.

We don't want to set a plan for product "A" when we really have product "D".

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Where do we find the ERG ?

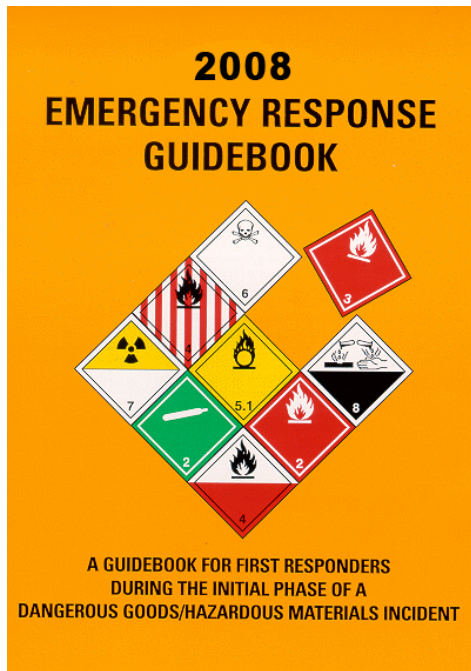


An ERG is located in the officers compartment of all of our initial response vehicles. – (by clipboards)

For the Chief's vehicles, it may be located in their back command area and on their laptops.

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

How do we use the ERG ?



With Fixed Locations, (that have known Haz-Mat,)

The ERG can be used by the Chiefs in Pre Planning, setting up a Pre Incident Action Plans for these locations.

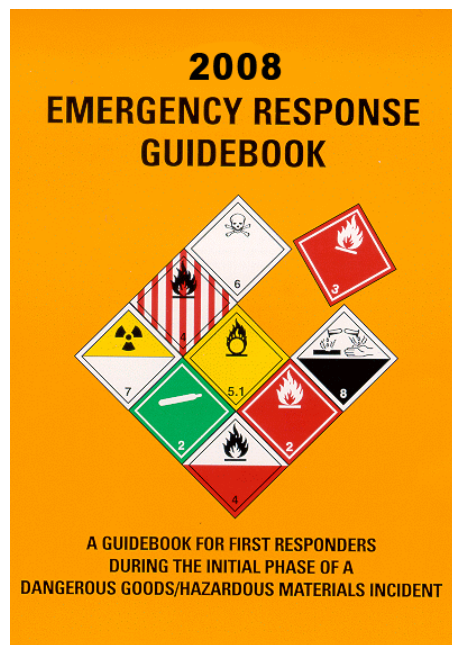
Members could then have direction prior to ever leaving Headquarters, by the computer sheets.

Dispatchers can also give this additional data to rig as the unit goes 21 and while in route.

This is why it's important to note items we see at everyday calls, that may impose a Hazard to us later, and get that info back to the dispatchers, so it gets into our system.

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

How do we use the ERG ?



Proper use of the ERG begins with

Identification:

We need to know 1 or more of the following:

- 1. Product Name**
- 2. Products 4 digit ID Number**
- 3. Type of container its being transported in.**
- 4. Type of Placard or Label on the container**

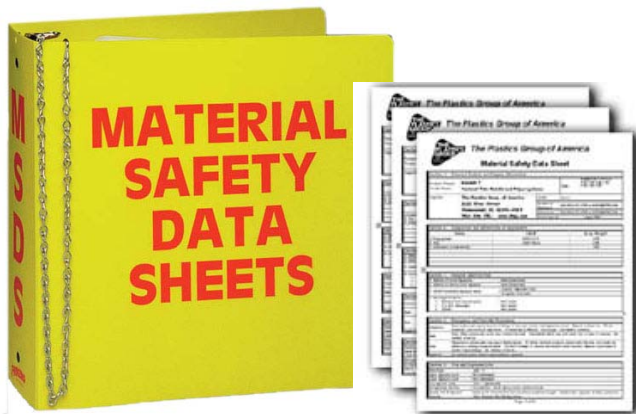
How do we find the Product Name ?



In most cases the name of the product can be found by locating the person who made the call for help.

You are most likely being called to the premise because they spilled the product and they know what it is?

All Locations that have a hazardous material on premise will have Material Safety Data Sheets (aka: **MSDS**) for each product.



The MSDS will explain **everything** about the product: Name, contact info for its maker, physical and chemical characteristics, hazards, exposures, first aid procedures....

MATERIAL SAFETY DATA SHEET -

MATERIAL SAFETY DATA SHEET

Issued: August 6, 1992
REVISED: February 2, 2010

Rain - Shield MB Cont'd

Page 2

SECTION 1: PRODUCT INFORMATION

Product Name: RAIN - SHIELD CLEAR MB
Manufacturer: GEMITE PRODUCTS INC.
Address: 1787 Drew Road, Mississauga, ON L5S 1J5
Emergency Phone: US: 888-443-6483 CANADA: 905-672-2020
Chemical Family: Acrylic Emulsion Based Water Borne
T.D.G. Classification:

SECTION 2: HAZARDOUS INGREDIENTS

INGREDIENTS	%	TLV	CAS NO.
Ethylene Glycol	3.5		107 - 21 -5
Ester Alcohol	1.1		25265 - 77 -4

SECTION 3: PHYSICAL DATA

Physical State: Aqueous Paint
Odour & Appearance: Odourless, Water borne thin solution
Vapour Pressure: Unknown
Vapour Density:
Evaporation Rate:
Boiling Point: 100 °C
Specific Gravity: 1.1
PH: 9 - 10

SECTION 4 : FIRE & EXPLOSION DATA

Flammability: Nonflammable
Extinguishing Media: N/A
Special Procedures: N/A
Flash Point: N/A
Auto Ignition Temp: N/A
Upper Flammability Limit: N/A
Lower Flammability Limit: N/A
Hazardous Combustion Products: N/A
Explosion Data: No fire or explosion hazards

SECTION 5: REACTIVITY DATA

Conditions Contributing to Instability: Stable
Incompatibility: Very Compatible
Hazardous Polymerization: Will not occur
Reactivity Conditions: None
Hazardous Products of Decomposition: Decomposition products of acrylic polymers

SECTION 6: TOXICOLOGICAL PROPERTIES

Route of Entry: Eyes, Mouth, Skin
Skin Contact: Reddening of skin upon repeated or prolonged contact
Eye Contact: Slight irritation to eyes with direct contact
Inhalation: Over exposure from spray mist may irritate upper respiratory tract
Ingestion: N/A
Effects of Chronic Exposure: N/A
Effects of Acute Exposure: N/A
TLV: N/A

SECTION 7: PREVENTATIVE MEASURES

Protective Equipment

- Gloves Type: Impervious gloves
- Respiratory Type: Respiratory protection is required when sanding or grinding the finished product
- Eye Type: Safety glasses when spraying
- Footwear Type: N/A
- Clothing Type: N/A
Engineering Controls: N/A
Leak/ Spill: Wash down with water
Waste Disposal: Same as paint.
Handling Procedures & Equipment: Avoid skin and eye contact.
Storage Needs: Keep container closed when not in use.

SECTION 8: FIRST AID MEASURES

Eye Contact: Irrigate with large amounts of water for at least 15 minutes. Seek medical attention if irritation persists.
Skin Contact: Wash exposed areas with clean, fresh water and soap.
Inhalation: Move person to fresh air and seek medical attention.
Ingestion: Unless unconscious or convulsing, dilute material with water or milk. Do not induce vomiting. Consult physician.

N/A : Not applicable



MSDS sheets can be found in common areas, such as break rooms, since all personnel inside that premise must have access to them.

The best way to immediately obtain the MSDS sheets at an incident is to have the person in charge of location have someone get them for you!

For Product being Transported – **Non Fixed Locations**



Roadway – within the Drivers Arms Length,
Bill of Lading (usually in the drivers door pocket)

Rail – on the conductor person,
Consist



Waterway – in the wheel house,
Dangerous Cargo Manifest



Airplane – in the Cockpit,
Air Bill



These all list the Cargo being Carried by the transportation vessel, they are similar to the MSDS sheets and will the have specific data on each of the products being carried.

How do we find the Product's ID Number ?

Product ID number can be found **on** the
“containers” - by a label or placard.



This Products ID is 1075

How do we find the Product's ID Number ?

For Products that originated overseas, you may see a Orange rectangle with 4 black numbers



This Products ID is 1265

Identifying Product Containers

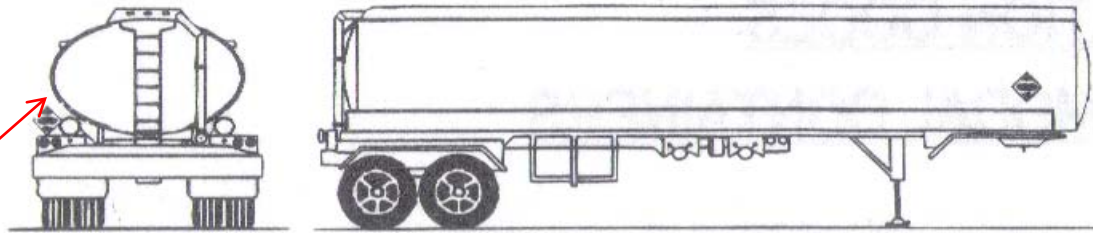
When we talk about identifying the product by its containers, we are talking about, while it's being transported.

In almost all cases, we won't need to identify Product by its container in a facility, since we'll be able to get its MSDS.

For products being transported, it may be on fire and we'll be unable to get its Data Sheets, this is when Container ID becomes important.

Identifying Products Containers / Containers of Transportation

NON- PRESSURE LIQUID TANK



Oval in shape

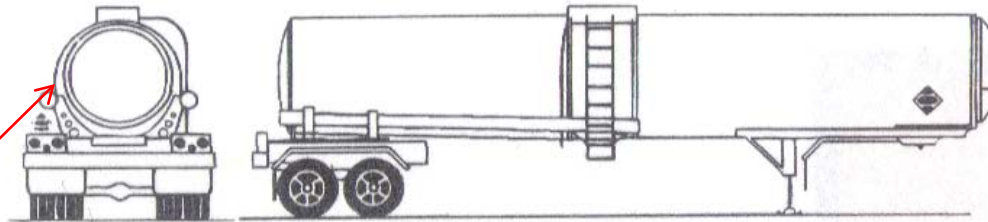
DOT406, TC406 Non-pressure
Liquid Tank
(MC306, TC306)



Can be seen daily delivering gasoline to the local stations

Identifying Products Containers / Containers of Transportation

LOW PRESSURE LIQUID TANK



Round in shape

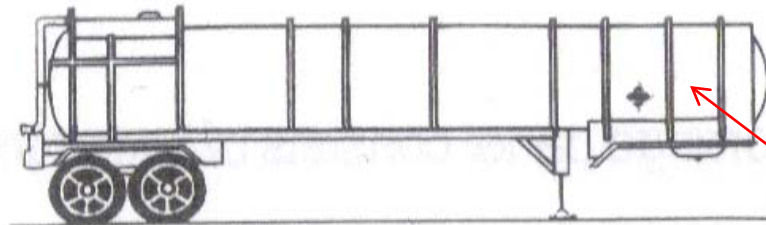
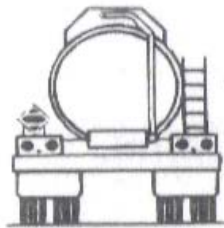
DOT407, TC407 Low pressure
Chemical Tank
(MC307, TC307)

137

Note difference from Non Pressure – Round tank & Not Oval Shape

Identifying Products Containers / Containers of Transportation

CORROSIVE LIQUID TANK



DOT412, TC412 Corrosive
Liquid Tank
(MC312, TC312)



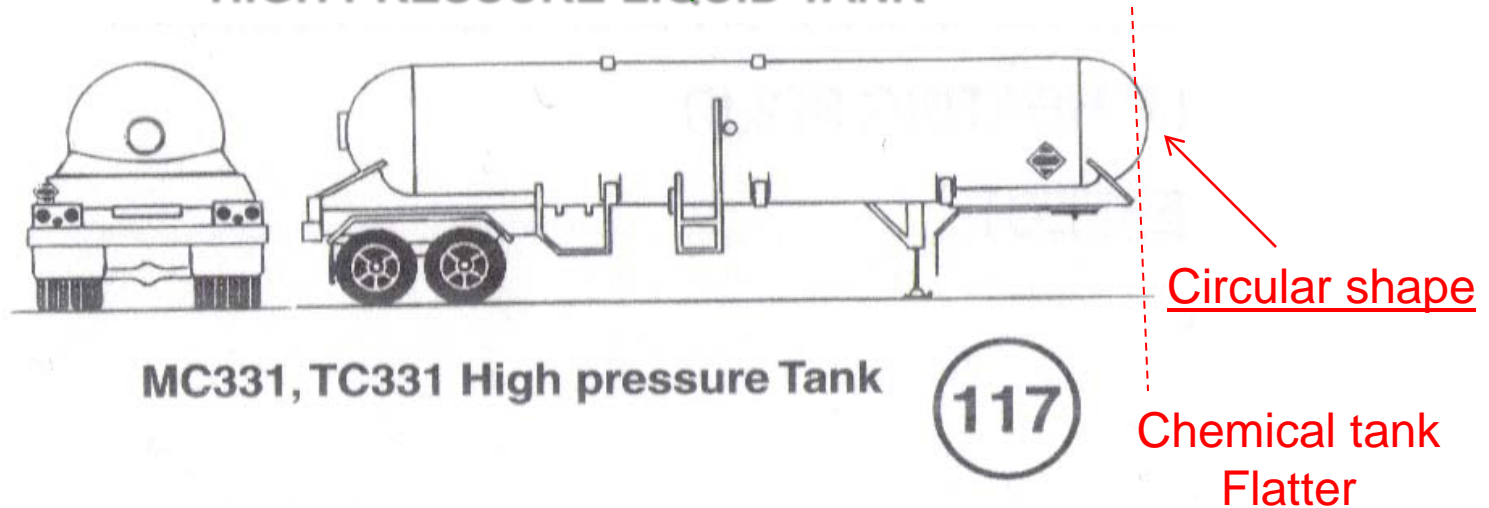
Note Bands

Difference from Low Pressure is has Multiple Support Bands in tank, due to weight of product

Can be seen regularly delivering Caustic Soda to the Water Districts Wells Stations

Identifying Products Containers / Containers of Transportation

HIGH PRESSURE LIQUID TANK

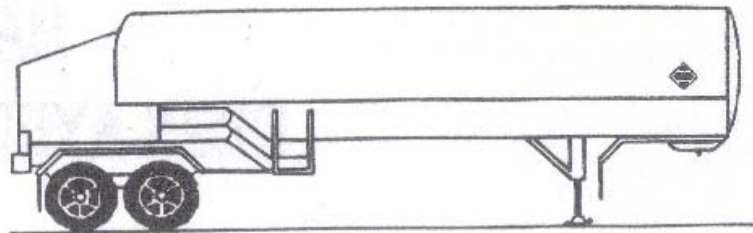
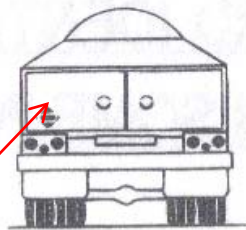


Can be seen regularly delivering propane

Note: roundness of tank front and back – not flat like low pressure

Identifying Products Containers / Containers of Transportation

CRYOGENIC LIQUID TANK



MC338, TC338 Cryogenic Liquid
Tank
(MC306, TC306)



Housing on back

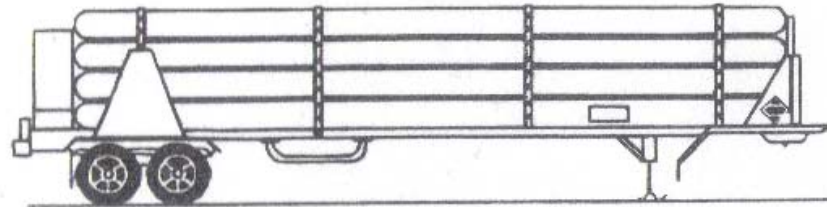
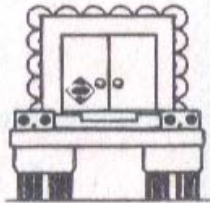
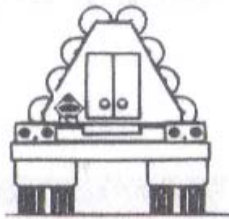
Tank within a Tank – Outside tank is what keeps the inner Tank Cold

Besides the product hazard, the container is also a hazard, temperatures inside the outer tank could be 100's of degrees below freezing. If this tank is ruptured the product warms. What effect will it have on the product?

Most cases, the product is cooled to make it a liquid so more can be transported, as it is heated, it will convert back to a gas, and a lot of it.

Identifying Products Containers / Containers of Transportation

Compressed Gas Tube Trailer



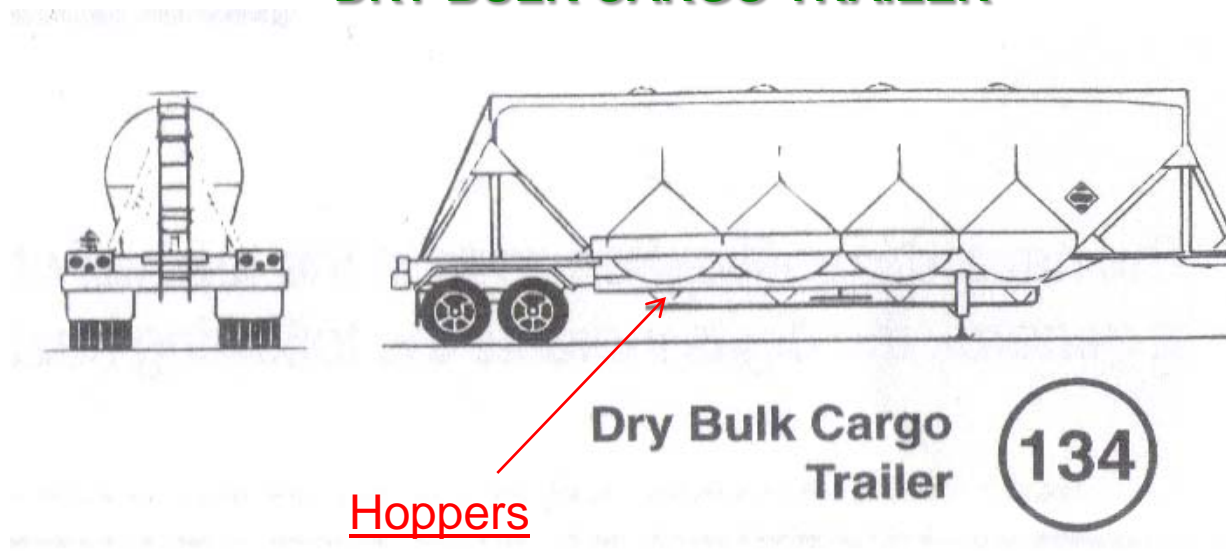
Compressed Gas/
Tube Trailer



Besides used for Transportation, they stay parked on premises for long periods, as the product is being off loaded. Once they are empty the entire trailer is replaced.

Identifying Products Containers / Containers of Transportation

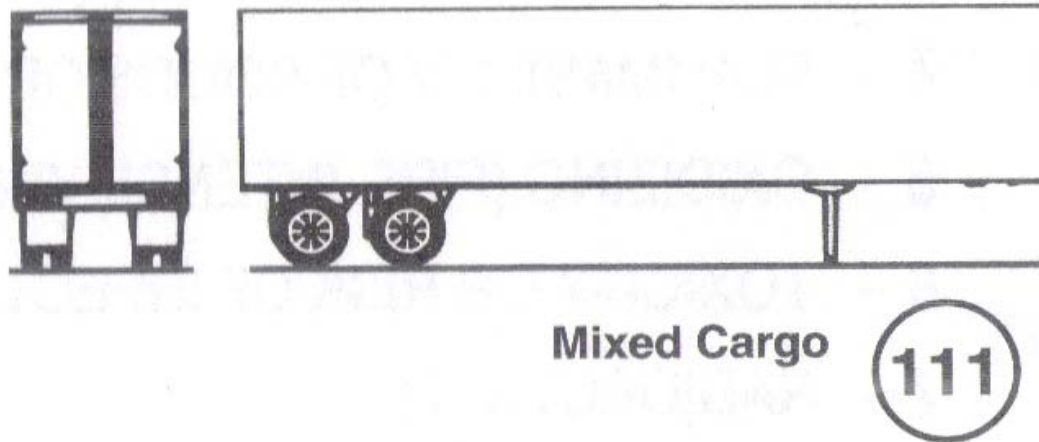
DRY BULK CARGO TRAILER



Can be seen regularly delivering Cement or Flour to bakeries

Identifying Products Containers / Containers of Transportation

MIXED CARGO TRAILER

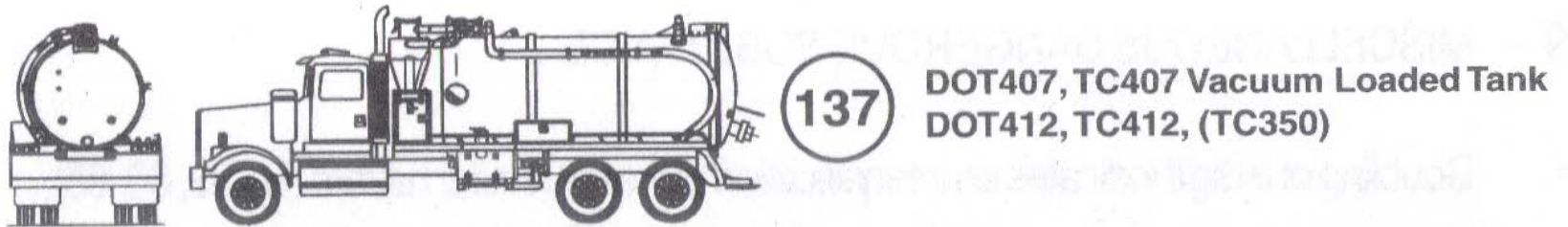


Can be seen regularly anytime, anywhere, **delivering anything**

Real danger is mixed product – you may a 2 safe products but when mixed together produce a dangerous one – (Clorox & Ammonia)
Example – Grocery delivery truck

Identifying Products Containers / Containers of Transportation

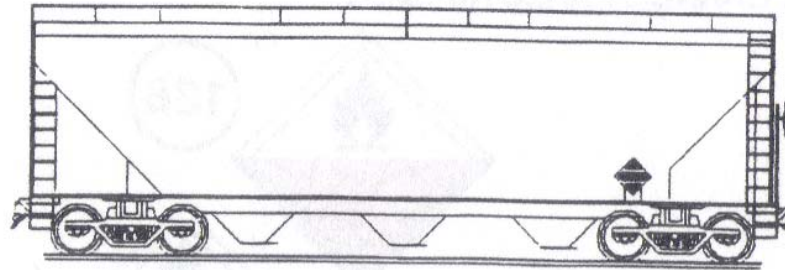
VACUUM LOADED TANK



Can be seen regularly on Voice Road in Carle Place – Citywide Sewer

Identifying Products Containers / Containers of Transportation

HOPPER CAR DRY BULK



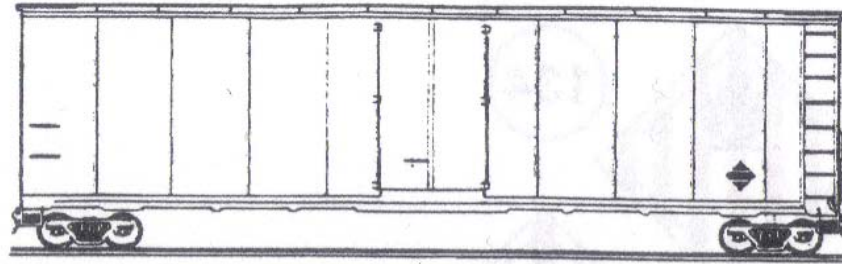
Hopper Car
Dry Bulk

140

Carries Dry Powder products, Cement Very Common on Rails

Identifying Products Containers / Containers of Transportation

BOX CAR MIXED CARGO



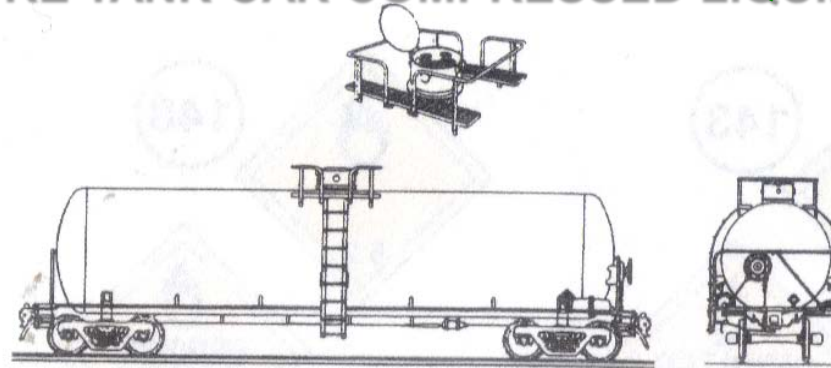
Box Car
Mixed Cargo

111

Can be seen regularly anytime, anywhere, **delivering anything**

Identifying Products Containers / Containers of Transportation

PRESSURE TANK CAR COMPRESSED LIQUIFIED GASES



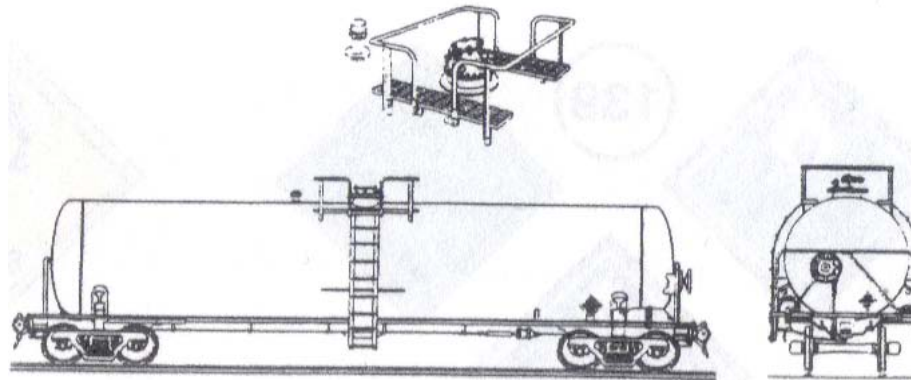
Pressure tank car
Compressed
liquified gases

117

All valves on top housed within 1 single control center

Identifying Products Containers / Containers of Transportation

NON- PRESSURE TANK CAR LIQUIDS



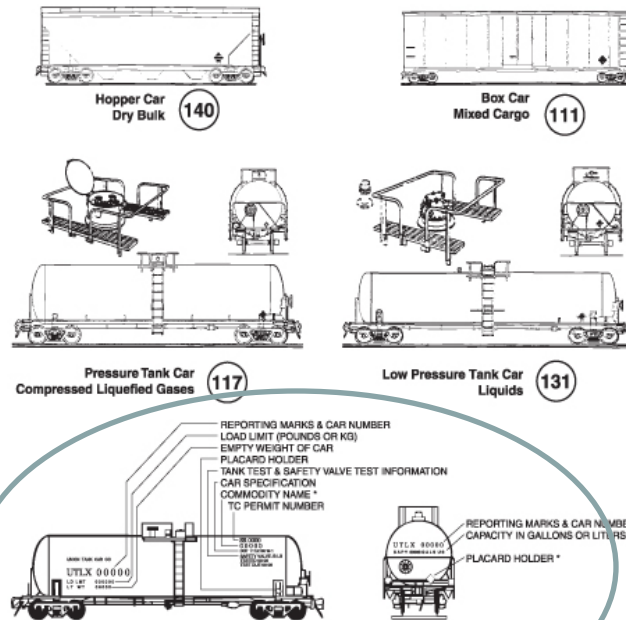
Non-pressure
tank car
Liquids

131

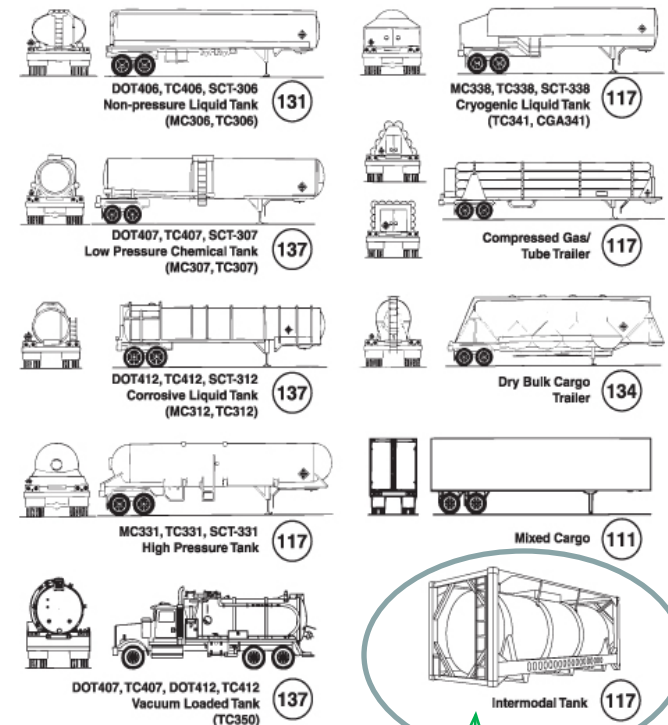
Looks similar to pressure tank car, but difference is it has Multiple discharge Valves on top

Identifying Products Containers / Containers of Transportation

RAIL CAR IDENTIFICATION CHART*



ROAD TRAILER 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 documents or train consist or contacting dispatch centers before emergency response is initiated.

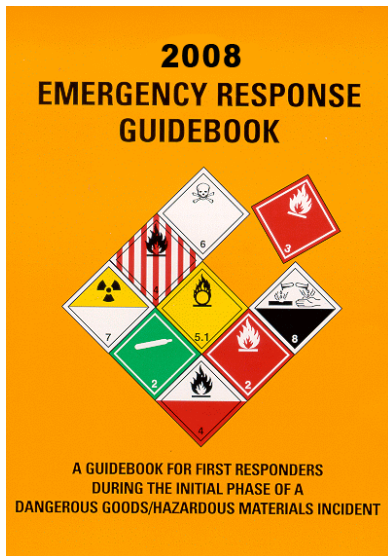
The information stenciled on the sides or ends of tank cars, as illustrated above, may be used to identify the product utilizing:

- the commodity name shown; or
- 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.

CAUTION: This chart depicts only the most general shapes of road trailers. Emergency response personnel must be aware that there are many variations of road trailers, not illustrated above, that are used for shipping chemical products. The suggested guides are for the most hazardous products that may be transported in these trailer types.

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



Help ID
Train tank car
Markings

All can be found on page 18 & 19 of ERG

Shipping Cargo Tanks
from a Ship to Back of Truck

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Identifying Products Containers / Containers of Transportation



All these are common means of transporting a hazardous material from place to place.

Be aware most hazard occurs **not** while the product is being transported, but when the product is being **loaded & unloaded** from their containers.

Identifying Placards By - Class of Hazardous Material

Class 1 - Explosives

- Division 1.1 Explosives with a mass explosion hazard
- Division 1.2 Explosives with a projection hazard
- Division 1.3 Explosives with predominantly a fire hazard
- Division 1.4 Explosives with no significant blast hazard
- Division 1.5 Very insensitive explosives; blasting agents
- Division 1.6 Extremely insensitive detonating articles

Class 2 - Gases

- Division 2.1 Flammable gases
- Division 2.2 Non-flammable, non-toxic* compressed gases
- Division 2.3 Gases toxic* by inhalation
- Division 2.4 Corrosive gases (Canada)

Class 3 - Flammable liquids/ combustible liquids

Class 4 - Flammable solids; Spontaneously combustible materials; and Dangerous when wet materials

- Division 4.1 Flammable solids
- Division 4.2 Spontaneously combustible materials
- Division 4.3 Dangerous when wet materials

Class 5 - Oxidizers and Organic peroxides

- Division 5.1 Oxidizers
- Division 5.2 Organic peroxides

Class 6 - Toxic* materials and Infectious substances

- Division 6.1 Toxic* materials
- Division 6.2 Infectious substances

Class 7 - Radioactive materials

Class 8 - Corrosive materials

Class 9 - Miscellaneous dangerous goods



Identifying Placards/Labels

Placards/Labels are the warning label affixed to the products container.



Class 3 - Flammable liquid



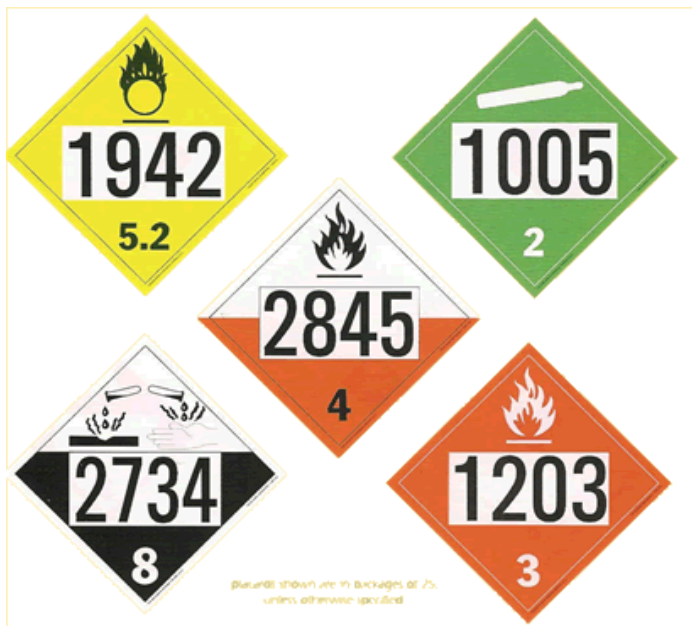
Class 2 - Gas



Class 4 - Flammable solid

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Identifying Placards/Labels



When you have a placard that displays an ID Number along with the Class, **reference the ID in the guide**, since it's more specific to the product and will give you the products actual name.

NFPA 704 Style Placards

As you enter a structure you may see a NFPA 704 Placard:

RED – FLAMMABILITY

BLUE – HEALTH

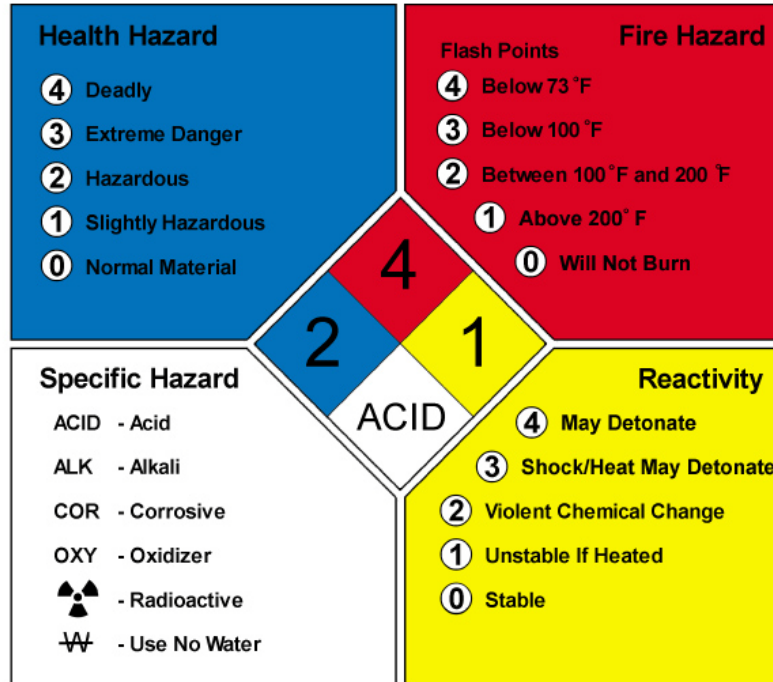
YELLOW – REACTIVITY

WHITE – SPECIAL HAZARD



NFPA 704 Style Placards

National Fire Protection Association NFPA 704M Label



General Rating Summary

Health	Flammability	Reactivity
4 May be fatal on short exposure. Specialized protective equipment is required	4 Flammable gas or extremely flammable liquid	4 Explosive material at room temperature
3 Corrosive or toxic. Avoid skin contact or inhalation.	3 Flammable liquid flash point below 100 degrees F	3 May be explosive if shocked, heated under confinement or mixed with water
2 May be harmful if inhaled or absorbed.	2 Combustible liquid flash point of 100 to 200 degrees F	2 Unstable or may react violently if mixed with water
1 May be irritating.	1 Combustible if heated	1 May react if heated or mixed with water but not violently
0 No unusual hazard	0 Not combustible	0 Not reactive when mixed with water

NFPA 704 Style Placards

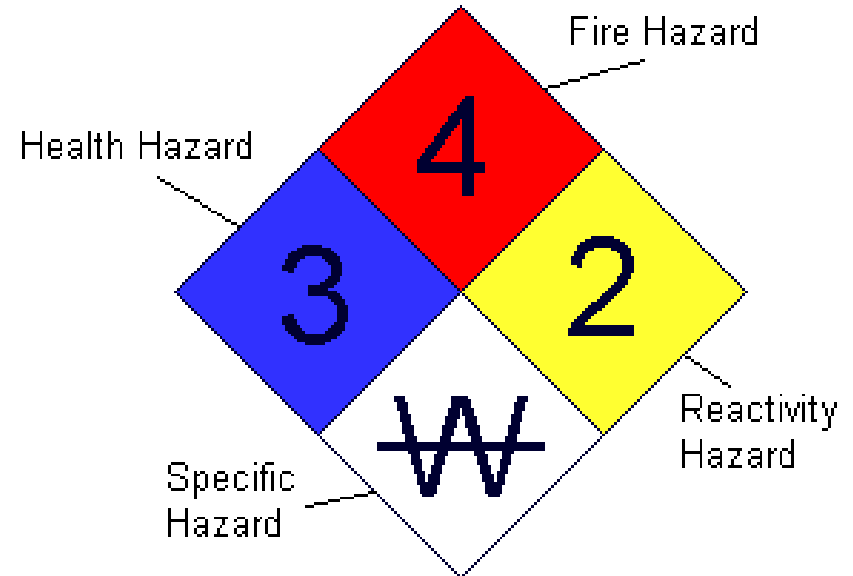
Rates on a scale of 0-4,
4 being most dangerous

RED – FLAMMABILITY – 4
(How Flammable it is) Flash < 73 degree F

BLUE – HEALTH – 3
(How it will effect your Health) Extreme danger

YELLOW – REACTIVITY – 2
(how well does it play) chemical change is violent

WHITE – SPECIAL HAZARD – W with line through it
(reacts with water – do not use)



NFPA 704 Style Placards

What does this mean?

RED – Flammability – 3

Flash below 100 degree F

BLUE – Health Hazard – 2

hazardous

YELLOW – Reactivity – 1

Unstable if heated

The W with the line represent
it reacts to water, so don't use water.

*Our 1 danger will be the 3 – Fire below 100 degrees
but do we use water to keep temp down? NO*



NFPA 704 Style Placards



What about this placard, what is our hazard?

BLUE – HEALTH – 4
Deadly

RED – FLAMMABILITY – 3
FP < 100

YELLOW – REACTIVITY – 2
Violent chemical change

WHITE – SPECIAL HAZARD – ACID



**Our biggest hazard is to our health, although
flammability is a close second.**

**2008
EMERGENCY RESPONSE
GUIDEBOOK**



A GUIDEBOOK FOR FIRST RESPONDERS
DURING THE INITIAL PHASE OF A
DANGEROUS GOODS/HAZARDOUS MATERIALS INCIDENT

NFPA 704 Style Placards

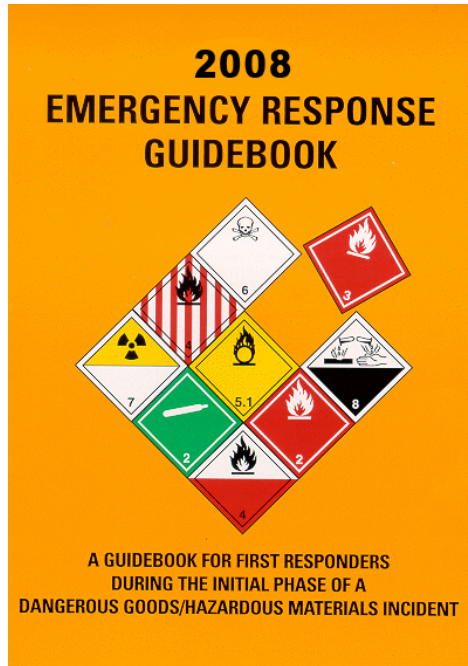


How do we reference this to the ERG?

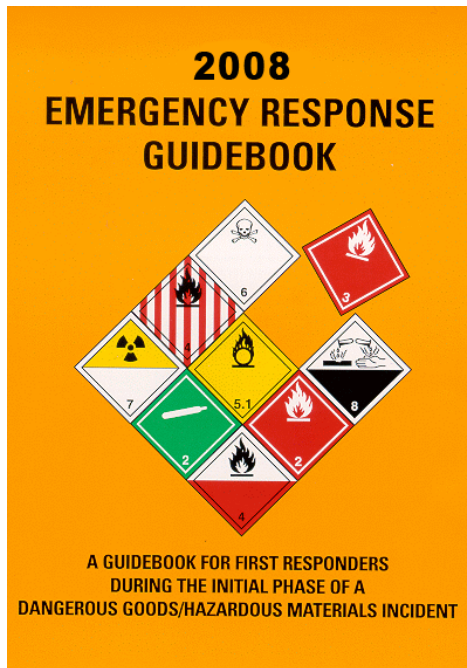
NFPA 704 Style Placards



How do we reference this to the ERG?



We can't; because we still have **not accomplished** meeting 1 of our objectives: Name, Number, Item Placard listing the class of Hazardous Material or Container Identification.



NFPA 704 Style Placards



How do we reference this to the ERG?

This may be all you find,
If so, let this placard guide you to cautions,
as you get the additional data.

Hint:

Health mean you may not want to get to close...

NFPA 704 Style Placards

How do we reference this to the ERG?



These NFPA 704 placards are usually found on the gates entering a facility or on the building, visible as you enter.

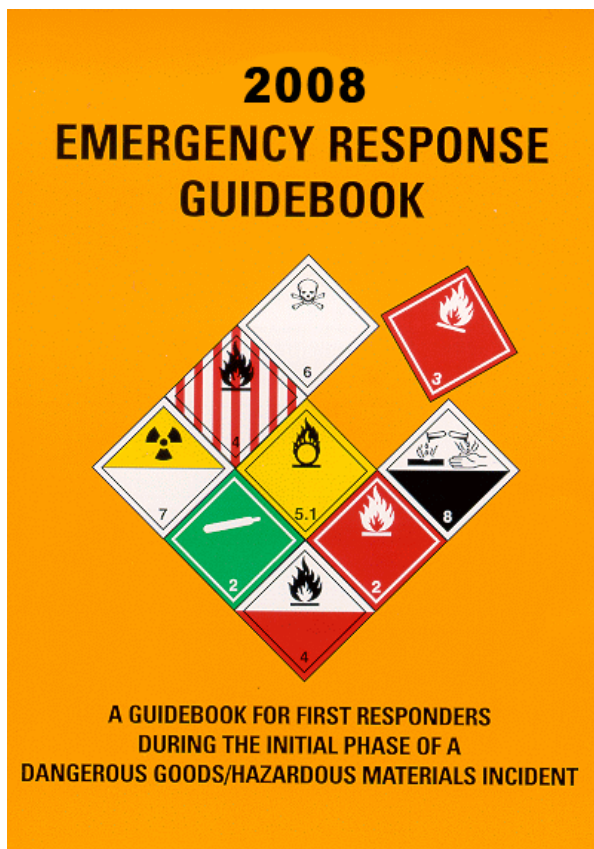
This will take into consideration all hazardous material in the premise and is very Non-specific.

This is why more information is required and it is not addressed in the ERG.

Think of it as your warning label to what to come.

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Putting what we now know to use, utilizing the ERG



Once we've learned:

- *1. The Products Name
- *2. The Products 4 digit ID #
- 3. The Type of Container it's being Transported in
Or
- 4. The Placard that is on the products container

NOW WHAT DO WE DO ?

- * Our Main Objective to get either a Name or ID ,
since will give us a more precise action plan.

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Putting what we now know to use, utilizing the ERG



When we looking at the ERG from the side we notice:

It is Divided into 4 Sections

Yellow

Blue

Orange

Green

The White pages are instructional pages to the guides use.

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Putting what we now know to use, utilizing the ERG



Yellow-bordered pages:

Index list of dangerous goods in numerical order by **ID number**.

This section of the guide will be consulted if you had the Products ID Number of the material involved.

This list displays the 4-digit ID number of the material followed by its assigned emergency response guide and the full material name.

For example:

ID No.	Guide No.	Name of Material
1090	127	Acetone

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

ID No.	Guide No.	Name of Material	ID No.	Guide No.	Name of Material	ID No.	Guide No.	Name of Material	ID No.	Guide No.	Name of Material
1030	115	1,1-Difluoroethane	1046	121	Helium	1063	115	Refrigerant gas R-40	1077	115	Propylene
1030	115	Difluoroethane	1046	121	Helium, compressed	1064	117	Methyl mercaptan	1078	126	Dispersant gas, n.o.s.
1030	115	Refrigerant gas R-152a	1048	125	Hydrogen bromide, anhydrous	1065	121	Neon	1078	126	Refrigerant gas, n.o.s.
1032	118	Dimethylamine, anhydrous	1049	115	Hydrogen	1065	121	Neon, compressed	1079	125	Sulfur dioxide
1033	115	Dimethyl ether	1049	115	Hydrogen, compressed	1066	121	Nitrogen	1079	125	Sulphur dioxide
1035	115	Ethane	1050	125	Hydrogen chloride, anhydrous	1066	121	Nitrogen, compressed	1080	126	Sulfur hexafluoride
1035	115	Ethane, compressed	1051	117	AC	1067	124	Dinitrogen tetroxide	1080	126	Sulphur hexafluoride
1036	118	Ethylamine	1051	117	Hydrocyanic acid, aqueous solutions, with more than 20% Hydrogen cyanide	1067	124	Nitrogen dioxide	1081	116P	Tetrafluoroethylene, stabilized
1037	115	Ethyl chloride	1051	117	Hydrogen cyanide, anhydrous, stabilized	1069	125	Nitrosyl chloride	1082	119P	Trifluorochloroethylene, stabilized
1038	115	Ethylene, refrigerated liquid (cryogenic liquid)	1051	117	Hydrogen cyanide, stabilized	1070	122	Nitrous oxide	1083	118	Trimethylamine, anhydrous
1039	115	Ethyl methyl ether	1051	117	Hydrogen cyanide, stabilized	1070	122	Nitrous oxide, compressed	1085	116P	Vinyl bromide, stabilized
1039	115	Methyl ethyl ether	1052	125	Hydrogen fluoride, anhydrous	1071	119	Oil gas	1086	116P	Vinyl chloride, stabilized
1040	119P	Ethylene oxide	1053	117	Hydrogen sulfide	1071	119	Oil gas, compressed	1087	116P	Vinyl methyl ether, stabilized
1040	119P	Ethylene oxide with Nitrogen	1053	117	Hydrogen sulphide	1072	122	Oxygen	1088	127	Acetal
1041	115	Carbon dioxide and Ethylene oxide mixture, with more than 9% but not more than 87% Ethylene oxide	1055	115	Isobutylene	1072	122	Oxygen, compressed	1089	129	Acetaldehyde
1041	115	Carbon dioxide and Ethylene oxide mixtures, with more than 6% Ethylene oxide	1056	121	Krypton	1073	122	Oxygen, refrigerated liquid (cryogenic liquid)	1090	127	Acetone
1041	115	Ethylene oxide and Carbon dioxide mixture, with more than 9% but not more than 87% Ethylene oxide	1056	121	Krypton, compressed	1075	115	Butane	1091	127	Acetone oils
1041	115	Ethylene oxide and Carbon dioxide mixtures, with more than 6% Ethylene oxide	1057	115	Lighter refills (cigarettes) (flammable gas)	1075	115	Butane mixture	1092	131P	Acrolein, stabilized
1043	125	Fertilizer, ammoniating solution, with free Ammonia	1057	115	Lighters (cigarettes) (flammable gas)	1075	115	Butylene	1093	131P	Acrylonitrile, stabilized
1044	126	Fire extinguishers with compressed gas	1058	120	Liquefied gases, non-flammable, charged with Nitrogen, Carbon dioxide or Air	1075	115	Isobutane	1098	131	Allyl alcohol
1044	126	Fire extinguishers with liquefied gas	1060	116P	Methylacetylene and Propadiene mixture, stabilized	1075	115	Isobutane mixture	1099	131	Allyl bromide
1045	124	Fluorine	1060	116P	Propadiene and Methylacetylene mixture, stabilized	1075	115	Isobutylene	1100	131	Allyl chloride
1045	124	Fluorine, compressed	1061	118	Methylamine, anhydrous	1075	115	Liquefied petroleum gas	1104	129	Amyl acetates
			1062	123	Methyl bromide	1075	115	LPG	1105	129	Amyl alcohols
			1063	115	Methyl chloride	1075	115	Petroleum gases, liquefied	1105	129	Pentanols
						1075	115	Propane	1106	132	Amylamines
						1075	115	Propane mixture	1107	129	Amyl chloride
						1076	125	CG	1108	128	n-Amylene
						1076	125	Diphosgene	1108	128	1-Pentene
						1076	125	DP	1109	129	Amyl formates
						1076	125	Phosgene	1110	127	n-Amyl methyl ketone
									1110	127	Amyl methyl ketone

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Putting what we now know to use, utilizing the ERG



Blue-bordered pages:

List of dangerous goods in alphabetical order by the **material's name**.

This section of the guide would be consulted by the name of the material involved. This list displays the name of the material followed by its assigned emergency response guide and 4-digit ID number.

For example:

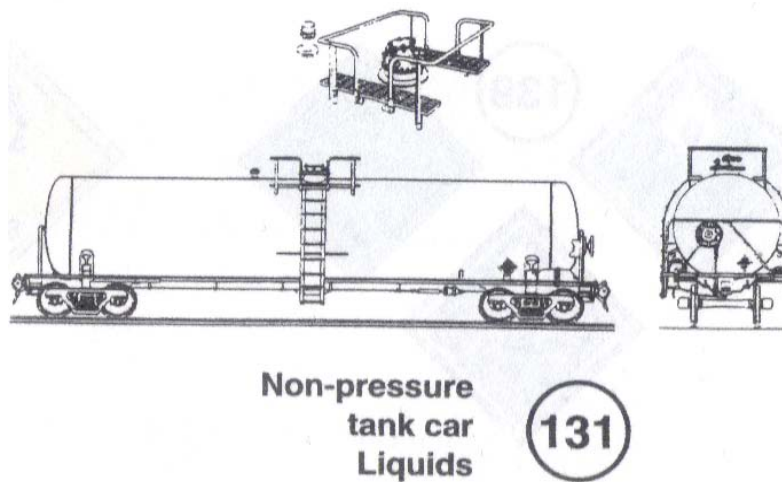
Name of Material	Guide No.	ID No.
Calcium	138	1401

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Name of Material	Guide ID No. No.	Name of Material	Guide ID No. No.	Name of Material	Guide ID No. No.	Name of Material	Guide ID No. No.
Bisulfates, aqueous solution	154 2837	Boron trifluoride propionic acid complex, solid	157 3420	2-Bromopentane	130 2343	Butyl ethers	128 1149
Bisulfites, aqueous solution, n.o.s.	154 2693	Bromates, inorganic, aqueous solution, n.o.s.	140 3213	2-Bromopropane	129 2344	n-Butyl formate	129 1128
Bisulfites, inorganic, aqueous solution, n.o.s.	154 2693	Bromates, inorganic, n.o.s.	141 1450	Bromopropanes	129 2344	tert-Butyl hypochlorite	135 3255
Bisulphates, aqueous solution	154 2837	Bromine	154 1744	3-Bromopropyne	130 2345	N,n-Butylimidazole	152 2690
Bisulphites, aqueous solution, n.o.s.	154 2693	Bromine, solution	154 1744	Bromotrifluoroethylene	116 2419	n-Butyl isocyanate	155 2485
Bisulphites, inorganic, aqueous solution, n.o.s.	154 2693	Bromine, solution (Inhalation Hazard Zone A)	154 1744	Bromotrifluoromethane	126 1009	tert-Butyl isocyanate	155 2484
Blasting agent, n.o.s.	112 ---	Bromine, solution (Inhalation Hazard Zone B)	154 1744	Brown asbestos	171 2212	Butyl mercaptan	130 2347
Bleaching powder	140 2208	Bromine chloride	124 2901	Brucine	152 1570	n-Butyl methacrylate, stabilized	130P 2227
Blue asbestos	171 2212	Bromine pentafluoride	144 1745	Butadienes, stabilized	116P 1010	Butyl methyl ether	127 2350
Bombs, smoke, non-explosive, with corrosive liquid, without initiating device	153 2028	Bromine trifluoride	144 1746	Butadienes and hydrocarbon mixture, stabilized	116P 1010	Butyl nitrites	129 2351
Borate and Chlorate mixtures	140 1458	Bromoacetic acid	156 1938	Butane	115 1011	Butyl propionates	130 1914
Borneol	133 1312	Bromoacetic acid, solid	156 3425	Butane	115 1075	Butyltoluenes	152 2667
Boron tribromide	157 2692	Bromoacetic acid, solution	156 1938	Butane	115 1075	Butyltrichlorosilane	155 1747
Boron trichloride	125 1741	Bromoacetone	131 1569	Butanedione	127 2346	5-tert-Butyl-2,4,6-trinitro-m-xylene	149 2956
Boron trifluoride	125 1008	Bromoacetyl bromide	156 2513	Butane mixture	115 1011	Butyl vinyl ether, stabilized	127P 2352
Boron trifluoride, compressed	125 1008	Bromobenzene	130 2514	Butane mixture	115 1075	1,4-Butynediol	153 2716
Boron trifluoride, dihydrate	157 2851	Bromobenzyl cyanides	159 1694	Butanols	129 1120	Butyraldehyde	129 1129
Boron trifluoride acetic acid complex	157 1742	Bromobenzyl cyanides, liquid	159 1694	Butoxyl	127 2708	Butyraldoxime	129 2840
Boron trifluoride acetic acid complex, liquid	157 1742	Bromobenzyl cyanides, solid	159 3449	Butyl acetates	129 1123	Butyric acid	153 2820
Boron trifluoride acetic acid complex, solid	157 3419	1-Bromobutane	130 1126	Butyl acid phosphate	153 1718	Butyric anhydride	156 2739
Boron trifluoride diethyl etherate	132 2604	2-Bromobutane	130 2339	Butyl acrylates, stabilized	129P 2348	Butyronitrile	131 2411
Boron trifluoride dimethyl etherate	139 2965	Bromochlorodifluoromethane	126 1974	n-Butylamine	132 1125	Butyryl chloride	132 2353
Boron trifluoride propionic acid complex	157 1743	Bromochloromethane	160 1887	N-Butylaniline	153 2738	Buzz	153 2810
Boron trifluoride propionic acid complex, liquid	157 1743	1-Bromo-3-chloropropane	159 2688	Butylbenzenes	128 2709	BZ	153 2810
		2-Bromoethyl ethyl ether	130 2340	n-Butyl bromide	130 1126	CA	159 1694
		Bromoform	159 2515	Butyl chloride	130 1127	Cacodylic acid	151 1572
		1-Bromo-3-methylbutane	130 2341	n-Butyl chloroformate	155 2743	Cadmium compound	154 2570
		Bromomethylpropanes	130 2342	sec-Butyl chloroformate	155 2742	Caesium	138 1407
		2-Bromo-2-nitropropane-1,3-diol	133 3241	tert-Butylcyclohexyl chloroformate	156 2747	Caesium hydroxide	157 2682
				Butylene	115 1012	Caesium hydroxide, solution	154 2681
				Butylene	115 1075	Caesium nitrate	140 1451
				1,2-Butylene oxide, stabilized	127P 3022	Calcium	138 1401

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

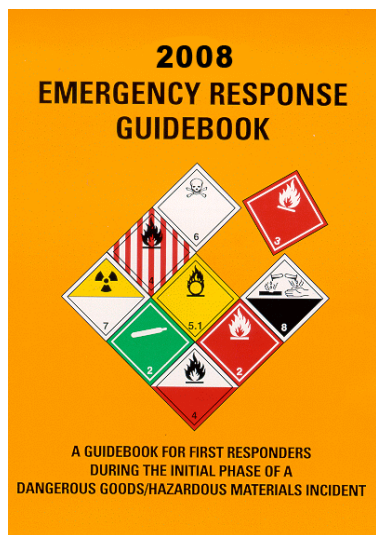
Putting what we now know to use, utilizing the ERG



Knowing this is the container that is leaking,
What guide will we be using to handle the incident?

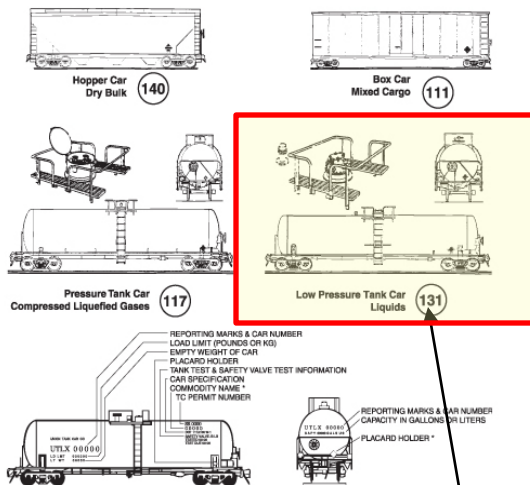
HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Putting what we now know to use, utilizing the ERG



Page 18 & 19

RAIL CAR IDENTIFICATION CHART*



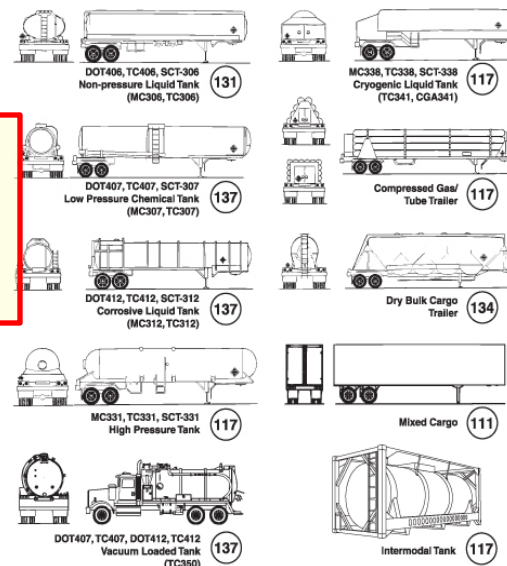
CAUTION: Emergency response personnel must be aware that rail tank cars vary widely in construction, fittings and purpose. Tank cars could transport products that may be solids, liquids or gases. The products may be under pressure. It is essential that products be identified by consulting shipping documents 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 above, may be used to identify the product utilizing:

- the commodity name shown; or
- 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.

ROAD TRAILER IDENTIFICATION CHART*



CAUTION: This chart depicts only the most general shapes of road trailers. Emergency response personnel must be aware that there are many variations of road trailers, not illustrated above, that are used for shipping chemical products. The suggested guides are for the most hazardous products that may be transported in these trailer types.

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

From Container ID

We'll use Reference Guide Number 131

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

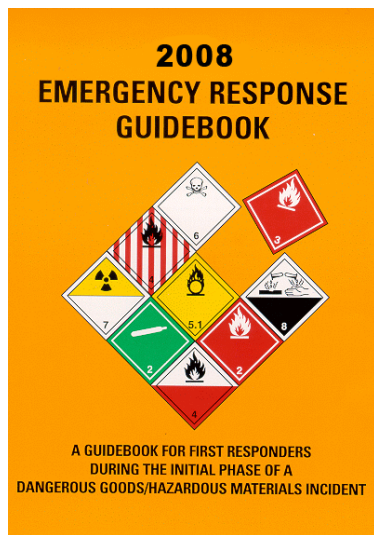
Putting what we now know to use, utilizing the ERG



Knowing the container has this label,
What guide will we be using to handle the incident?

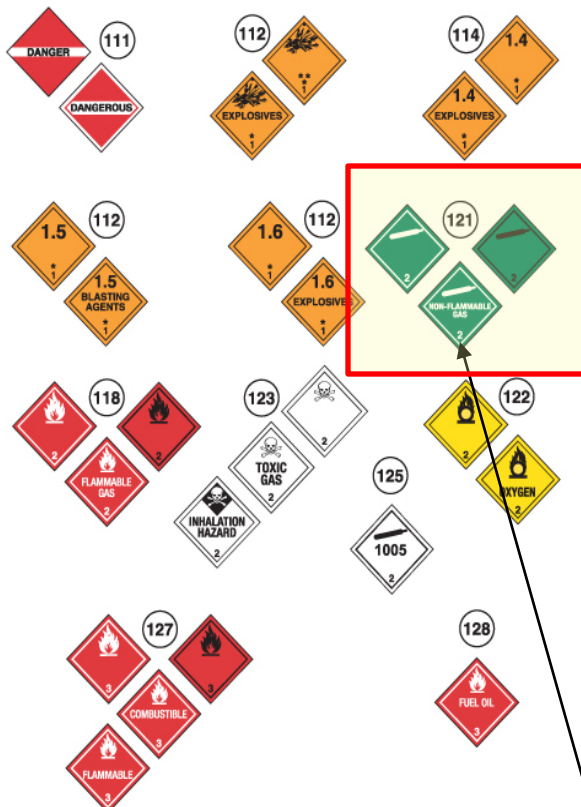
HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Putting what we now know to use, utilizing the ERG

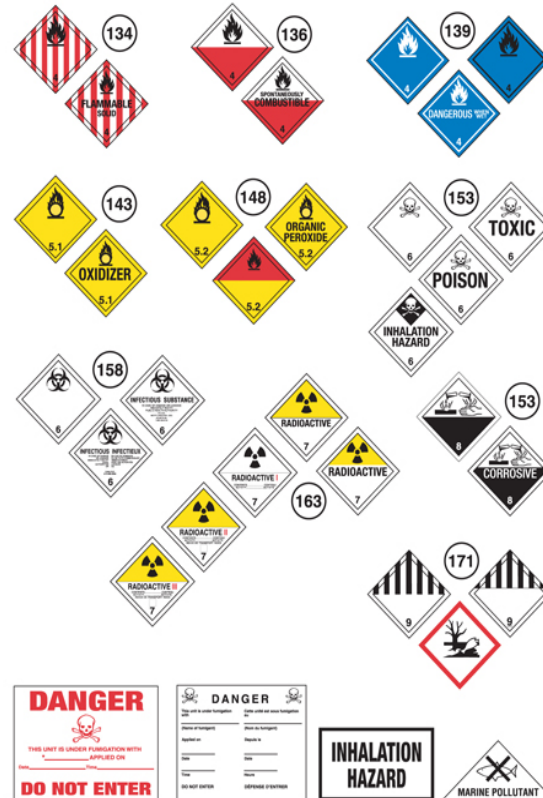


Page 16 & 17

TABLE OF PLACARDS AND INITIAL
USE THIS TABLE ONLY IF MATERIALS CANNOT BE SPECIFICALLY IDENTIFIED BY



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



From Placard Reference

We'll use Reference Guide Number 121

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Putting what we now know to use, utilizing the ERG

Our Main Objective is to get to the **Orange Sections** of the Guide.



Orange-bordered pages:

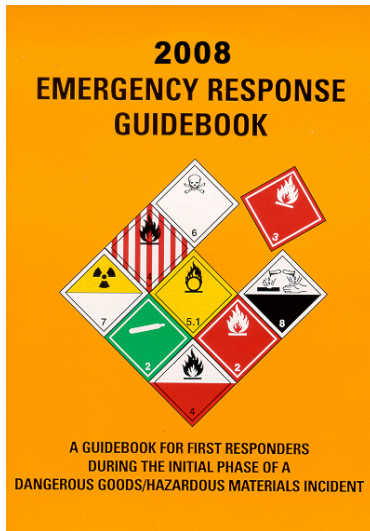
This section is the most important section of the guidebook because it is where all the safety recommendations are provided.

It comprises a total of 62 individual guides, presented in a two-page format. Each guide provides safety recommendations and emergency response information to protect yourself and the public.

The left hand page provides safety related information whereas the right hand page provides emergency response guidance and activities for fire situations, spill or leak incidents and first aid.

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Putting what we now know to use, utilizing the ERG



SO:

If we have an ID number of 1203

What color in the Guide would we reference that?

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Putting what we now know to use, utilizing the ERG



If we have an ID number of 1203

What color in the Guide would we reference that?

YELLOW

ID No:	Guide No.	Name of Material
1203	128	Gasoline

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Putting what we now know to use, utilizing the ERG



If we had a Chemical Name: Sulfuric acid

What color in the Guide would we reference that?

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Putting what we now know to use, utilizing the ERG



If we had a Chemical Name: Sulfuric acid

What color in the Guide would we reference that?

BLUE

Name of Material:	Guide No.	ID No.
Sulfuric Acid	137	1830

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Putting what we now know to use, utilizing the ERG



This placard is on a container that is leaking

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Putting what we now know to use, utilizing the ERG

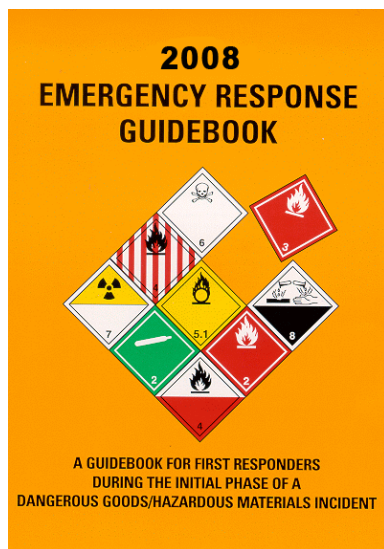
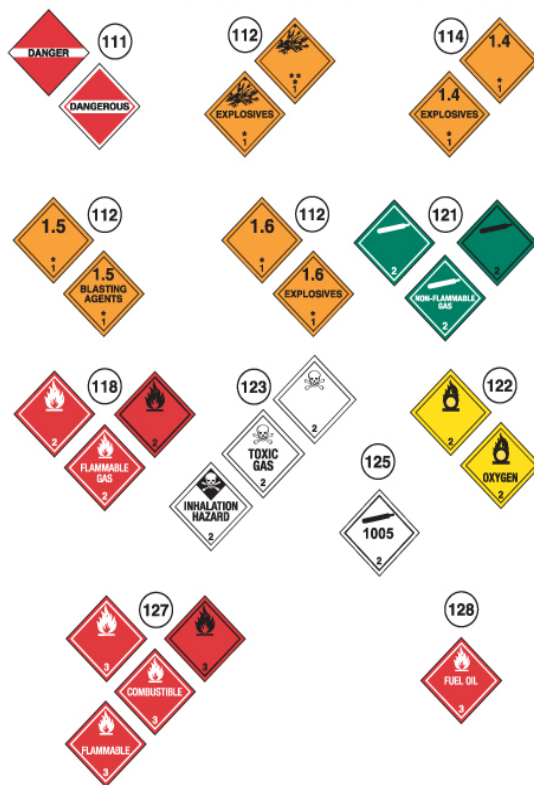
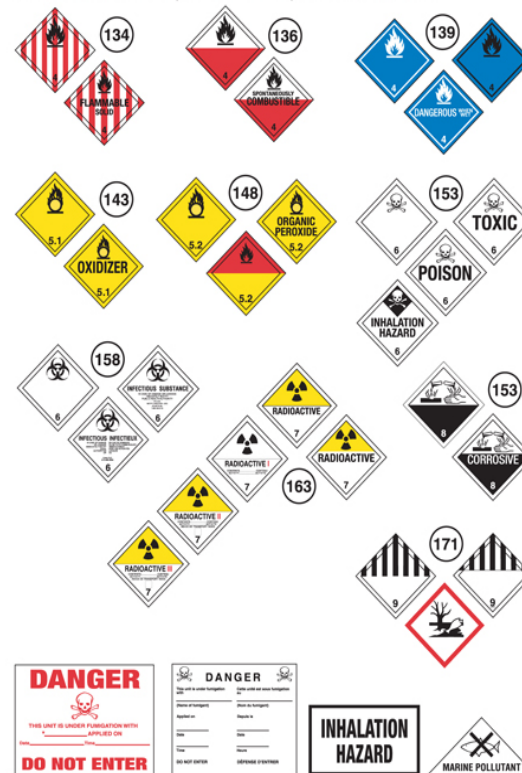


TABLE OF PLACARDS AND INITIAL
USE THIS TABLE ONLY IF MATERIALS CANNOT BE SPECIFICALLY IDENTIFIED BY



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



Using page 16 & 17 of the ERG (shown above)
What Guide Number will we use to handle the Incident?

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Putting what we now know to use, utilizing the ERG

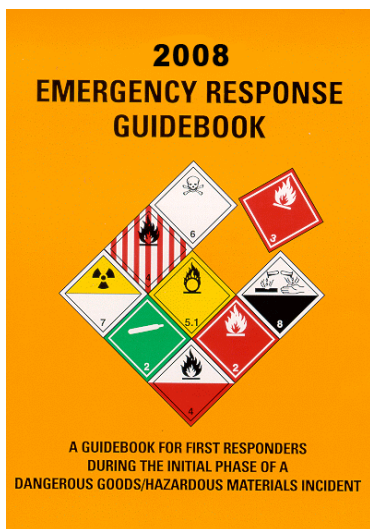
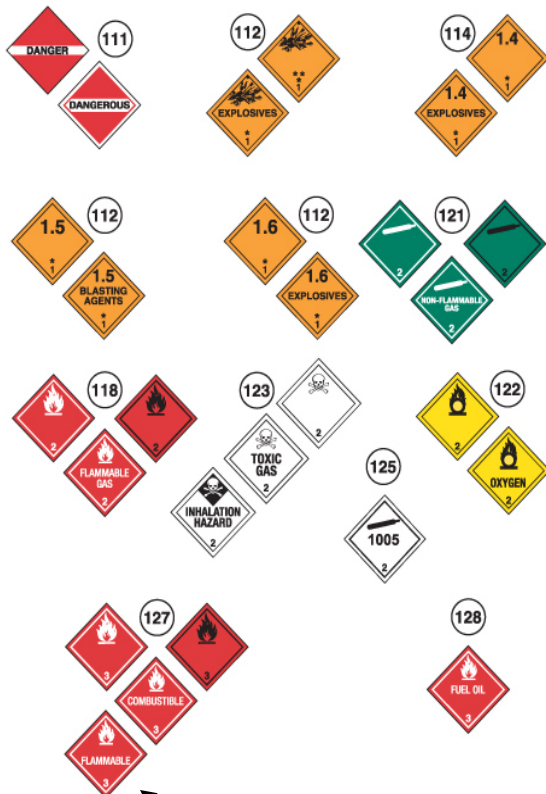
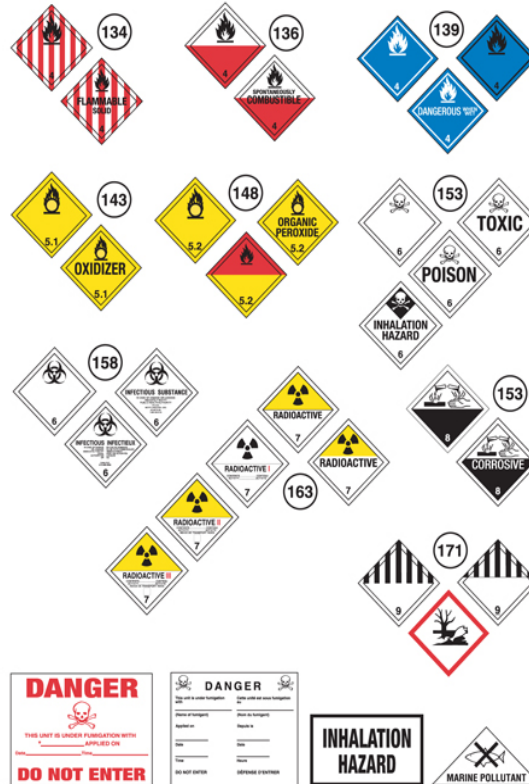


TABLE OF PLACARDS AND INITIAL
USE THIS TABLE ONLY IF MATERIALS CANNOT BE SPECIFICALLY IDENTIFIED BY



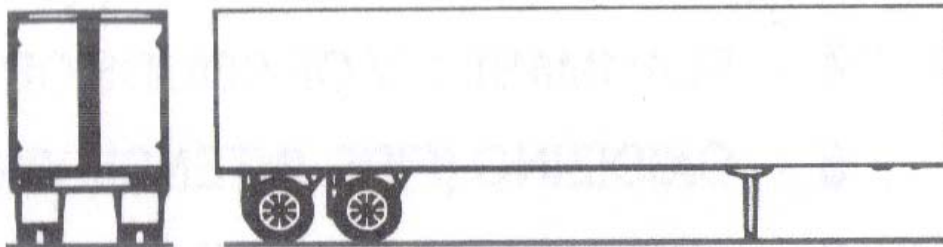
RESPONSE GUIDE TO USE ON-SCENE
USING THE SHIPPING DOCUMENT, NUMBERED PLACARD, OR ORANGE PANEL NUMBER



Guide 127

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Putting what we now know to use, utilizing the ERG



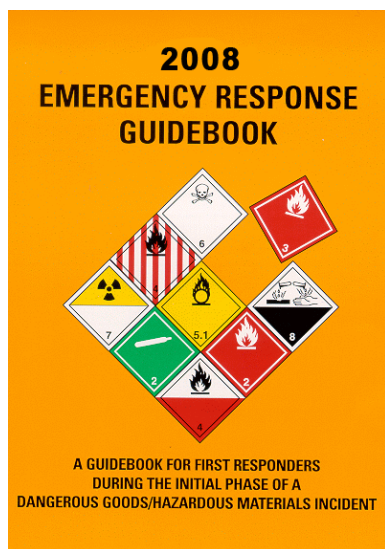
Mixed Cargo



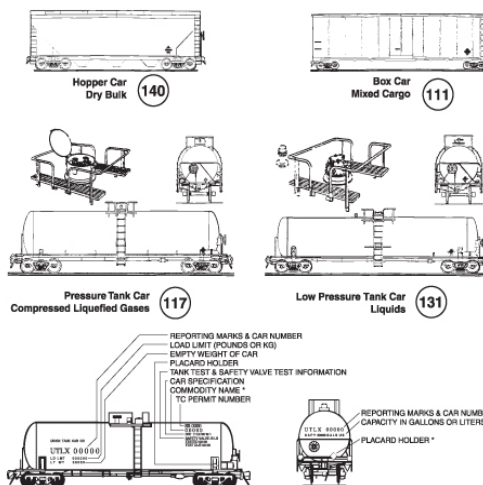
You have something leaking from a container that looks like this, Which Guide will we use?

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Putting what we now know to use, utilizing the ERG



RAIL CAR IDENTIFICATION CHART*



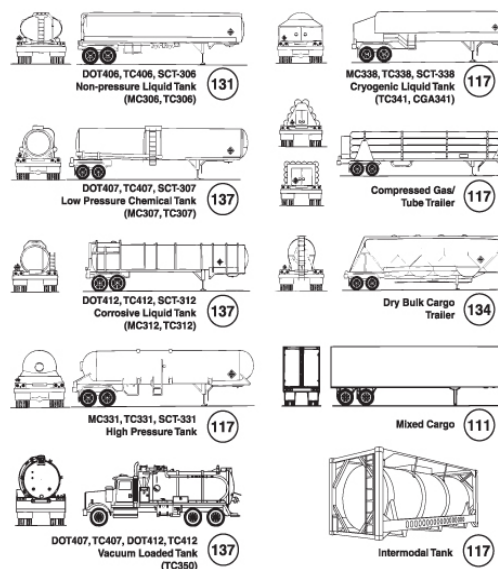
CAUTION: Emergency response personnel must be aware that rail tank cars vary widely in construction, fittings and purpose. Tank cars could transport products that may be solids, liquids or gases. The products may be under pressure. It is essential that products be identified by consulting shipping documents 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 above, may be used to identify the product utilizing:

- the commodity name shown; or
- 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.

ROAD TRAILER IDENTIFICATION CHART*



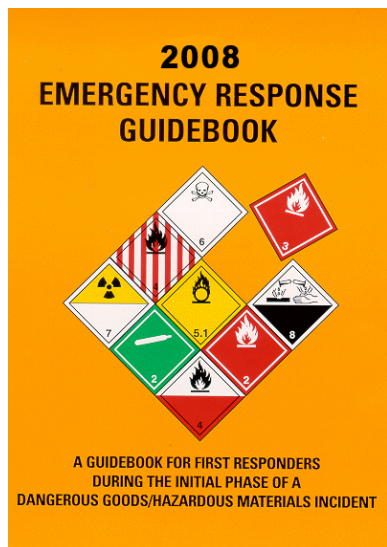
CAUTION: This chart depicts only the most general shapes of road trailers. Emergency response personnel must be aware that there are many variations of road trailers, not illustrated above, that are used for shipping chemical products. The suggested guides are for the most hazardous products that may be transported in these trailer types.

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

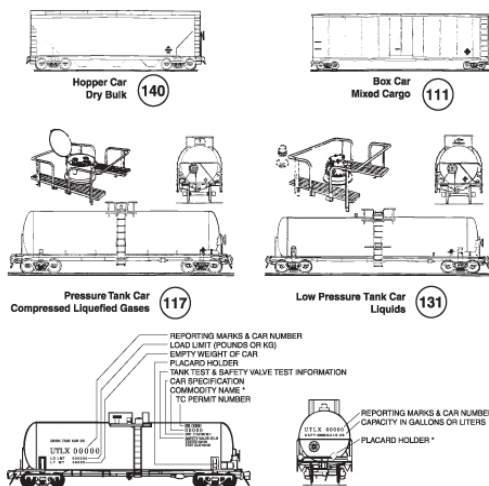
Using page 18 & 19 of the ERG (shown above)
What Guide Number will we use to handle the Incident?

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Putting what we now know to use, utilizing the ERG



RAIL CAR IDENTIFICATION CHART*



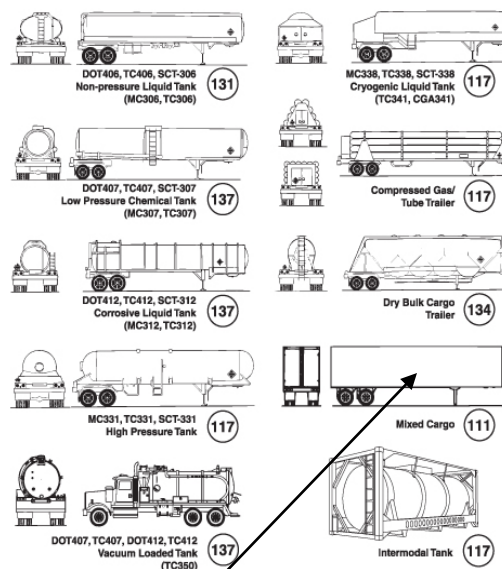
CAUTION: Emergency response personnel must be aware that rail tank cars vary widely in construction, fittings and purpose. Tank cars could transport products that may be solids, liquids or gases. The products may be under pressure. It is essential that products be identified by consulting shipping documents 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 above, may be used to identify the product utilizing:

- the commodity name shown; or
- 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.

ROAD TRAILER IDENTIFICATION CHART*



CAUTION: This chart depicts only the most general shapes of road trailers. Emergency response personnel must be aware that there are many variations of road trailers, not illustrated above, that are used for shipping chemical products. The suggested guides are for the most hazardous products that may be transported in these trailer types.

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

Guide 111

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Putting what we now know to use, utilizing the ERG



Guide 111

Guide 111 is probably the most used since it references all unknowns and mixed items.

This is why it's the 1st pages in the Orange Section.

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Using the Guide to handle an incident

What does the **Orange Pages** in the Guide tell us?

Guide 111

GUIDE 111	MIXED LOAD/UNIDENTIFIED CARGO	ERG2004	ERG2004	MIXED LOAD/UNIDENTIFIED CARGO	GUIDE 111
POTENTIAL HAZARDS			EMERGENCY RESPONSE		
FIRE OR EXPLOSION <ul style="list-style-type: none">• May explode from heat, shock, friction or contamination.• May react violently or explosively on contact with air, water or foam.• May be ignited by heat, sparks or flames.• Vapors may travel to source of ignition and flash back.• Containers may explode when heated.• Ruptured cylinders may rocket.			FIRE CAUTION: Material may react with extinguishing agent. Small Fires <ul style="list-style-type: none">• Dry chemical, CO₂, water spray or regular foam. Large Fires <ul style="list-style-type: none">• Water spray, fog or regular foam.• Move containers from fire area if you can do it without risk. Fire involving Tanks <ul style="list-style-type: none">• Cool containers with flooding quantities of water until well after fire is out.• Do not get water inside containers.• Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.• ALWAYS stay away from tanks engulfed in fire.		
HEALTH <ul style="list-style-type: none">• Inhalation, ingestion or contact with substance may cause severe injury, infection, disease or death.• High concentration of gas may cause asphyxiation without warning.• Contact may cause burns to skin and eyes.• Fire or contact with water may produce irritating, toxic and/or corrosive gases.• Runoff from fire control may cause pollution.			SPILL OR LEAK <ul style="list-style-type: none">• Do not touch or walk through spilled material.• ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).• All equipment used when handling the product must be grounded.• Keep combustibles (wood, paper, oil, etc.) away from spilled material.• Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.• Prevent entry into waterways, sewers, basements or confined areas. Small Spills • Take up with sand or other non-combustible absorbent material and place into containers for later disposal. Large Spills • Dike far ahead of liquid spill for later disposal.		
PUBLIC SAFETY <ul style="list-style-type: none">• CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.• As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions.• Keep unauthorized personnel away.• Stay upwind.• Keep out of low areas.			FIRST AID <ul style="list-style-type: none">• Move victim to fresh air. • Call 911 or emergency medical service.• Give artificial respiration if victim is not breathing.• Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.• 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.• Shower and wash with soap and water.• Keep victim warm and quiet.• Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.• Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.		
PROTECTIVE CLOTHING <ul style="list-style-type: none">• Wear positive pressure self-contained breathing apparatus (SCBA).• Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it may not be effective in spill situations.					
EVACUATION Fire <ul style="list-style-type: none">• 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.					

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Using the Guide to handle an incident

What does the **Orange Pages** in the Guide tell us?

Guide 111

GUIDE	MIXED LOAD/UNIDENTIFIED CARGO	ERG2004
111	POTENTIAL HAZARDS	
FIRE OR EXPLOSION		
<ul style="list-style-type: none">• May explode from heat, shock, friction or contamination.• May react violently or explosively on contact with air, water or foam.• May be ignited by heat, sparks or flames.• Vapors may travel to source of ignition, and flash back.• Containers may explode when heated.• Ruptured cylinders may rocket.		

Our 1st Priority is to address Fire or Explosion

Due to the fact - the product is **unknown** or **multiple products** mixed could make an even more dangerous product.

The Fire or Explosion potential needs to be dealt with first.

Once we know it's secure, then what?

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Using the Guide to handle an incident

Guide 111

What does the **Orange Pages** in the Guide tell us?



Our 2nd Priority is to address Health Hazard

- HEALTH**
- Inhalation, ingestion or contact with substance may cause severe injury, infection, disease or death.
 - High concentration of gas may cause asphyxiation without warning.
 - Contact may cause burns to skin and eyes.
 - Fire or contact with water may produce irritating, toxic and/or corrosive gases.
 - Runoff from fire control may cause pollution.

Both of these items can and should be addressed at the same time, but what is listed 1st has the most potential for danger.

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Using the Guide to handle an incident

Guide 111 What does the Orange Pages in the Guide tell us?



The next section deals with addressing the problem

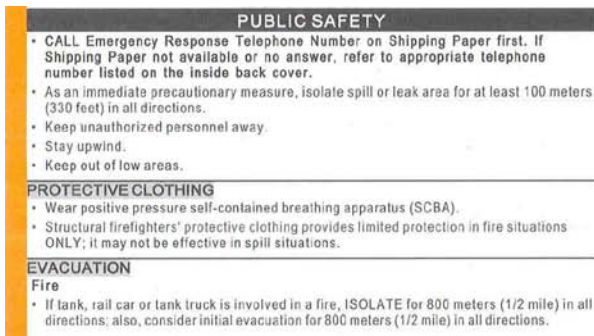
It lets you know:

Getting the shipping papers is important and to call their Emergency Response Telephone Number.

Isolate for 330' in all directions (Hot Zone)
(Only use Proper PPE in Hot Zone)

Stay upwind – (Wind at your back)

Keep out of Low Area



HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Using the Guide to handle an incident

Guide 111 What does the Orange Pages in the Guide tell us?

GUIDE MIXED LOAD/UNIDENTIFIED CARGO ERG2004
111

The next section deal with addressing the problem

Protective Clothing:

Wear Positive Pressure SCBA - (not a Hepa Mask)

Structural Firefighting gear has limited protection and may not be effective in spills

PUBLIC SAFETY

- CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.
- As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.

PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it may not be effective in spill situations.

EVACUATION

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.

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Using the Guide to handle an incident

Guide 111 What does the **Orange Pages** in the Guide tell us?

GUIDE MIXED LOAD/UNIDENTIFIED CARGO ERG2004
111

The next section deal with addressing the problem

Evacuation:

If Tank, Rail car or Tank truck on Fire –
Isolate 1/2 Mile in all directions (Hot Zone)
Evacuate 1/2 mile in all directions

PUBLIC SAFETY
<ul style="list-style-type: none">• CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.• As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions.• Keep unauthorized personnel away.• Stay upwind.• Keep out of low areas.
PROTECTIVE CLOTHING
<ul style="list-style-type: none">• Wear positive pressure self-contained breathing apparatus (SCBA).• Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it may not be effective in spill situations.
EVACUATION
<p>Fire</p> <ul style="list-style-type: none">• 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.

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Using the Guide to handle an incident

What does the **Orange Pages** in the Guide tell us?

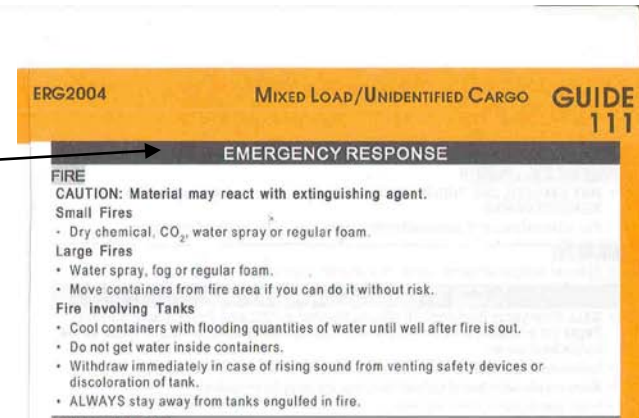
Guide 111

Page 2 - lets you know how to meet the objective.

If you have small fire – Dry Chem., CO2, water spray or regular foam.

Large Fire – Water spray, fog or regular foam

Fire involving Tanks –
Cool container – flooding quantities



HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Using the Guide to handle an incident

Guide 111

What does the **Orange Pages** in the Guide tell us?

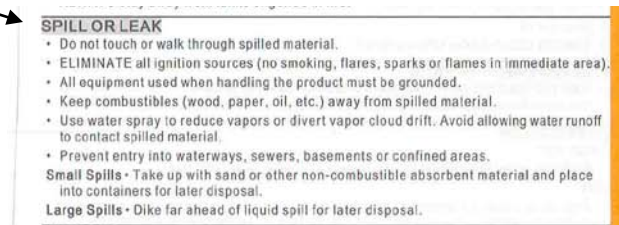
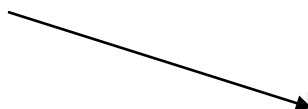
Page 2 lets you know how to meet objective.

Spills & Leaks:

Don't Touch or Walk Through

Eliminate all Ignition sources...

Explains how to **control** spill, not Cleaning it Up!



HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Using the Guide to handle an incident

Guide 111

What does the **Orange Pages** in the Guide tell us?

Page 2 lets you know how to meet objective.

First Aid:

This section will explain what to do medically for persons that come into contact with the product.



- FIRST AID**
- Move victim to fresh air. • Call 911 or emergency medical service.
 - Give artificial respiration if victim is not breathing.
 - Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
 - 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.
 - Shower and wash with soap and water.
 - Keep victim warm and quiet.
 - Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.
 - Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Using the Guide to handle an incident

Guide 111

What does the **Orange Pages** in the Guide tell us?

If you have the MSDS Sheets for the product,

Use those directions over this Guides, since they are more specific to the Actual Product.

This Guide is more Generic, taking in account multiple products with same reactions.

ERG2004 MIXED LOAD/UNIDENTIFIED CARGO **GUIDE 111**

EMERGENCY RESPONSE

FIRE
CAUTION: Material may react with extinguishing agent.

Small Fires

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

Large Fires

- Water spray, fog or regular foam.
- Move containers from fire area if you can do it without risk.

Fire Involving Tanks

- Cool containers with flooding quantities of water until well after fire is out.
- Do not get water inside containers.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.

SPILL OR LEAK

- Do not touch or walk through spilled material.
- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Keep combustibles (wood, paper, oil, etc.) away from spilled material.
- Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.
- Prevent entry into waterways, sewers, basements or confined areas.

Small Spills • Take up with sand or other non-combustible absorbent material and place into containers for later disposal.

Large Spills • Dike far ahead of liquid spill for later disposal.

FIRST AID

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
- 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.
- Shower and wash with soap and water.
- Keep victim warm and quiet.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Page 171

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Putting what we now know to use, utilizing the ERG




This Leaves the Green Pages,

What are they used for?

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Putting what we now know to use, utilizing the ERG



The Green Pages provide two different types of recommended safe distances which are:

“Initial isolation distances” - (Hot Zone)

and

“Protective action distances.” – (Evacuation Area)

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Putting what we now know to use, utilizing the ERG

Page 302

TABLE OF INITIAL ISOLATION AND PROTECTIVE ACTION DISTANCES

ID No.	NAME OF MATERIAL	SMALL SPILLS (From a small package or small leak from a large package)				LARGE SPILLS (From a large package or from many small packages)							
		First ISOLATE in all Directions		Then PROTECT persons Downwind during-		First ISOLATE in all Directions		Then PROTECT persons Downwind during-					
		Meters	(Feet)	DAY Kilometers (Miles)	NIGHT Kilometers (Miles)	Meters	(Feet)	DAY Kilometers (Miles)	NIGHT Kilometers (Miles)				
1005	Ammonia, anhydrous	30 m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	60 m	(200 ft)	0.6 km	(0.4 mi)	2.2 km	(1.4 mi)
1005	Ammonia, anhydrous, liquefied												
1005	Ammonia, solution, with more than 50% Ammonia												
1005	Anhydrous ammonia												
1005	Anhydrous ammonia, liquefied												
1008	Boron trifluoride	30 m	(100 ft)	0.1 km	(0.1 mi)	0.6 km	(0.4 mi)	180 m	(600 ft)	1.8 km	(1.1 mi)	4.8 km	(3.0 mi)
1008	Boron trifluoride, compressed												
1016	Carbon monoxide	30 m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	90 m	(300 ft)	0.7 km	(0.4 mi)	2.4 km	(1.5 mi)
1016	Carbon monoxide, compressed												
1017	Chlorine	30 m	(100 ft)	0.2 km	(0.2 mi)	1.2 km	(0.8 mi)	240 m	(800 ft)	2.4 km	(1.5 mi)	7.4 km	(4.6 mi)
1023	Coal gas	30 m	(100 ft)	0.2 km	(0.1 mi)	0.2 km	(0.1 mi)	60 m	(200 ft)	0.4 km	(0.2 mi)	0.5 km	(0.3 mi)
1023	Coal gas, compressed												
1026	Cyanogen	30 m	(100 ft)	0.2 km	(0.2 mi)	1.2 km	(0.8 mi)	120 m	(400 ft)	1.1 km	(0.7 mi)	4.3 km	(2.7 mi)
1026	Cyanogen, liquefied												
1026	Cyanogen gas												
1040	Ethylene oxide	30 m	(100 ft)	0.1 km	(0.1 mi)	0.2 km	(0.1 mi)	90 m	(300 ft)	0.8 km	(0.5 mi)	2.4 km	(1.5 mi)
1040	Ethylene oxide with Nitrogen												
1045	Fluorine	30 m	(100 ft)	0.2 km	(0.1 mi)	0.5 km	(0.3 mi)	90 m	(300 ft)	0.8 km	(0.5 mi)	3.5 km	(2.2 mi)
1045	Fluorine, compressed												
1048	Hydrogen bromide, anhydrous	30 m	(100 ft)	0.1 km	(0.1 mi)	0.5 km	(0.3 mi)	180 m	(600 ft)	1.8 km	(1.1 mi)	5.7 km	(3.6 mi)
1050	Hydrogen chloride, anhydrous	30 m	(100 ft)	0.1 km	(0.1 mi)	0.4 km	(0.3 mi)	360 m	(1200 ft)	3.6 km	(2.2 mi)	10.4 km	(6.5 mi)
1051	AC (when used as a weapon)	60 m	(200 ft)	0.2 km	(0.1 mi)	0.5 km	(0.3 mi)	500 m	(1500 ft)	1.7 km	(1.0 mi)	3.9 km	(2.4 mi)

NOTE The TOP:

It's Broken into:

Small & Large Spills

Small = usable amounts

Large = Multiple amounts, as a case or tanker.

Use better judgment, *not written in stone*, always better to be safe, leaning to large, then sorry.

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Putting what we now know to use, utilizing the ERG

Page 302

TABLE OF INITIAL ISOLATION AND PROTECTIVE ACTION DISTANCES								
ID No.	NAME OF MATERIAL	SMALL SPILLS (From a small package or small leak from a large package)				LARGE SPILLS (From a large package or from many small packages)		
		First ISOLATE in all Directions		Then PROTECT persons Downwind during-		First ISOLATE in all Directions		Then PROTECT persons Downwind during-
				DAY Kilometers (Miles)	NIGHT Kilometers (Miles)			DAY Kilometers (Miles)
		Meters (Feet)			Meters (Feet)			
1005	Ammonia, anhydrous	30 m (100 ft)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	60 m (200 ft)	0.6 km (0.4 mi)	2.2 km (1.4 mi)
1005	Ammonia, anhydrous, liquefied							
1005	Ammonia, solution, with more than 50% Ammonia							
1005	Anhydrous ammonia	30 m (100 ft)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	60 m (200 ft)	0.6 km (0.4 mi)	2.2 km (1.4 mi)
1005	Anhydrous ammonia, liquefied							
1008	Boron trifluoride	30 m (100 ft)	0.1 km (0.1 mi)	0.6 km (0.4 mi)	0.6 km (0.4 mi)	180 m (600 ft)	1.8 km (1.1 mi)	4.8 km (3.0 mi)
1008	Boron trifluoride, compressed							
1016	Carbon monoxide	30 m (100 ft)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	90 m (300 ft)	0.7 km (0.4 mi)	2.4 km (1.5 mi)
1016	Carbon monoxide, compressed							
1017	Chlorine	30 m (100 ft)	0.2 km (0.2 mi)	1.2 km (0.8 mi)	1.2 km (0.8 mi)	240 m (800 ft)	2.4 km (1.5 mi)	7.4 km (4.6 mi)
1023	Coal gas	30 m (100 ft)	0.2 km (0.1 mi)	0.2 km (0.1 mi)	0.2 km (0.1 mi)	60 m (200 ft)	0.4 km (0.2 mi)	0.5 km (0.3 mi)
1023	Coal gas, compressed							
1026	Cyanogen	30 m (100 ft)	0.2 km (0.2 mi)	1.2 km (0.8 mi)	1.2 km (0.8 mi)	120 m (400 ft)	1.1 km (0.7 mi)	4.3 km (2.7 mi)
1026	Cyanogen, liquefied							
1026	Cyanogen gas							
1040	Ethylene oxide	30 m (100 ft)	0.1 km (0.1 mi)	0.2 km (0.1 mi)	0.1 km (0.1 mi)	90 m (300 ft)	0.8 km (0.5 mi)	2.4 km (1.5 mi)
1040	Ethylene oxide with Nitrogen							
1045	Fluorine	30 m (100 ft)	0.2 km (0.1 mi)	0.5 km (0.3 mi)	0.5 km (0.3 mi)	90 m (300 ft)	0.8 km (0.5 mi)	3.5 km (2.2 mi)
1045	Fluorine, compressed							
1048	Hydrogen bromide, anhydrous	30 m (100 ft)	0.1 km (0.1 mi)	0.5 km (0.3 mi)	0.5 km (0.3 mi)	180 m (600 ft)	1.8 km (1.1 mi)	5.7 km (3.6 mi)
1050	Hydrogen chloride, anhydrous	30 m (100 ft)	0.1 km (0.1 mi)	0.4 km (0.3 mi)	0.4 km (0.3 mi)	360 m (1200 ft)	3.6 km (2.2 mi)	10.4 km (6.5 mi)
1051	AC (when used as a weapon)	60 m (200 ft)	0.2 km (0.1 mi)	0.5 km (0.3 mi)	0.5 km (0.3 mi)	500 m (1500 ft)	1.7 km (1.0 mi)	3.9 km (2.4 mi)

Isolation :

This is around the entire spill. (center outwards)

This will be the “Hot zone”

No personnel shall enter without **proper PPE.**

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Putting what we now know to use, utilizing the ERG

TABLE OF INITIAL ISOLATION AND PROTECTIVE ACTION DISTANCES

ID No.	NAME OF MATERIAL	SMALL SPILLS (From a small package or small leak from a large package)				LARGE SPILLS (From a large package or from many small packages)			
		First ISOLATE in all Directions Meters (Feet)		Then PROTECT		First ISOLATE in all Directions Meters (Feet)		Then PROTECT	
				persons Down wind during DAY Kilometers (Miles)	wind during NIGHT Kilometers (Miles)			persons Down wind during DAY Kilometers (Miles)	wind during NIGHT Kilometers (Miles)
1005	Ammonia, anhydrous	30 m (100 ft)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	60 m (200 ft)	0.6 km (0.4 mi)	2.2 km (1.4 mi)		
1005	Ammonia, anhydrous, liquefied								
1005	Ammonia, solution, with more than 50% Ammonia								
1005	Anhydrous ammonia								
1005	Anhydrous ammonia, liquefied								
1008	Boron trifluoride	30 m (100 ft)	0.1 km (0.1 mi)	0.6 km (0.4 mi)	180 m (600 ft)	1.8 km (1.1 mi)	4.8 km (3.0 mi)		
1008	Boron trifluoride, compressed								
1016	Carbon monoxide	30 m (100 ft)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	90 m (300 ft)	0.7 km (0.4 mi)	2.4 km (1.5 mi)		
1016	Carbon monoxide, compressed								
1017	Chlorine	30 m (100 ft)	0.2 km (0.2 mi)	1.2 km (0.8 mi)	240 m (800 ft)	2.4 km (1.5 mi)	7.4 km (4.6 mi)		
1023	Coal gas	30 m (100 ft)	0.2 km (0.1 mi)	0.2 km (0.1 mi)	60 m (200 ft)	0.4 km (0.2 mi)	0.5 km (0.3 mi)		
1023	Coal gas, compressed								
1026	Cyanogen	30 m (100 ft)	0.2 km (0.2 mi)	1.2 km (0.8 mi)	120 m (400 ft)	1.1 km (0.7 mi)	4.3 km (2.7 mi)		
1026	Cyanogen, liquefied								
1026	Cyanogen gas								
1040	Ethylene oxide	30 m (100 ft)	0.1 km (0.1 mi)	0.2 km (0.1 mi)	90 m (300 ft)	0.8 km (0.5 mi)	2.4 km (1.5 mi)		
1040	Ethylene oxide with Nitrogen								
1045	Fluorine	30 m (100 ft)	0.2 km (0.1 mi)	0.5 km (0.3 mi)	90 m (300 ft)	0.8 km (0.5 mi)	3.5 km (2.2 mi)		
1045	Fluorine, compressed								
1048	Hydrogen bromide, anhydrous	30 m (100 ft)	0.1 km (0.1 mi)	0.5 km (0.3 mi)	180 m (600 ft)	1.8 km (1.1 mi)	5.7 km (3.6 mi)		
1050	Hydrogen chloride, anhydrous	30 m (100 ft)	0.1 km (0.1 mi)	0.4 km (0.3 mi)	360 m (1200 ft)	3.6 km (2.2 mi)	10.4 km (6.5 mi)		
1051	AC (when used as a weapon)	60 m (200 ft)	0.2 km (0.1 mi)	0.5 km (0.3 mi)	500 m (1600 ft)	1.7 km (1.0 mi)	3.9 km (2.4 mi)		

Protect :

This is the evacuation area.

This defines who could be effected by the product within 30 minutes of the spill.

Since **day time** air is lighter then the **nights air** - (*once Sun sets*), you can see there are 2 different distances.

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Putting what we now know to use, utilizing the ERG

Page 302

TABLE OF INITIAL ISOLATION AND PROTECTIVE ACTION DISTANCES									
ID No.	NAME OF MATERIAL	SMALL SPILLS (From a small package or small leak from a large package)				LARGE SPILLS (From a large package or from many small packages)			
		First ISOLATE in all Directions		Then PROTECT persons Downwind during-		First ISOLATE in all Directions		Then PROTECT persons Downwind during-	
				DAY Kilometers (Miles)	NIGHT Kilometers (Miles)			DAY Kilometers (Miles)	NIGHT Kilometers (Miles)
		Meters (Feet)				Meters (Feet)			
1005	Ammonia, anhydrous	30 m (100 ft)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	60 m (200 ft)	0.6 km (0.4 mi)	2.2 km (1.4 mi)	
1005	Ammonia, anhydrous, liquefied								
1005	Ammonia, solution, with more than 50% Ammonia								
1005	Anhydrous ammonia	30 m (100 ft)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	60 m (200 ft)	0.6 km (0.4 mi)	2.2 km (1.4 mi)	
1005	Anhydrous ammonia, liquefied								
1008	Boron trifluoride	30 m (100 ft)	0.1 km (0.1 mi)	0.6 km (0.4 mi)	0.6 km (0.4 mi)	180 m (600 ft)	1.8 km (1.1 mi)	4.8 km (3.0 mi)	
1008	Boron trifluoride, compressed								
1016	Carbon monoxide	30 m (100 ft)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	90 m (300 ft)	0.7 km (0.4 mi)	2.4 km (1.5 mi)	
1016	Carbon monoxide, compressed								
1017	Chlorine	30 m (100 ft)	0.2 km (0.2 mi)	1.2 km (0.8 mi)	1.2 km (0.8 mi)	240 m (800 ft)	2.4 km (1.5 mi)	7.4 km (4.6 mi)	
1023	Coal gas	30 m (100 ft)	0.2 km (0.1 mi)	0.2 km (0.1 mi)	0.2 km (0.1 mi)	60 m (200 ft)	0.4 km (0.2 mi)	0.5 km (0.3 mi)	
1023	Coal gas, compressed								
1026	Cyanogen	30 m (100 ft)	0.2 km (0.2 mi)	1.2 km (0.8 mi)	1.2 km (0.8 mi)	120 m (400 ft)	1.1 km (0.7 mi)	4.3 km (2.7 mi)	
1026	Cyanogen, liquefied								
1026	Cyanogen gas								
1040	Ethylene oxide	30 m (100 ft)	0.1 km (0.1 mi)	0.2 km (0.1 mi)	0.1 km (0.1 mi)	90 m (300 ft)	0.8 km (0.5 mi)	2.4 km (1.5 mi)	
1040	Ethylene oxide with Nitrogen								
1045	Fluorine	30 m (100 ft)	0.2 km (0.1 mi)	0.5 km (0.3 mi)	0.5 km (0.3 mi)	90 m (300 ft)	0.8 km (0.5 mi)	3.5 km (2.2 mi)	
1045	Fluorine, compressed								
1048	Hydrogen bromide, anhydrous	30 m (100 ft)	0.1 km (0.1 mi)	0.5 km (0.3 mi)	0.5 km (0.3 mi)	180 m (600 ft)	1.8 km (1.1 mi)	5.7 km (3.6 mi)	
1050	Hydrogen chloride, anhydrous	30 m (100 ft)	0.1 km (0.1 mi)	0.4 km (0.3 mi)	0.4 km (0.3 mi)	360 m (1200 ft)	3.6 km (2.2 mi)	10.4 km (6.5 mi)	
1051	AC (when used as a weapon)	60 m (200 ft)	0.2 km (0.1 mi)	0.5 km (0.3 mi)	0.5 km (0.3 mi)	500 m (1500 ft)	1.7 km (1.0 mi)	3.9 km (2.4 mi)	

Protect :

Evacuation is only done to the **Downwind** direction, from the spill.

Note – Wind directions can change during the event, **so will the protected area**, wind needs to be monitored.

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Putting what we now know to use, utilizing the ERG

Protect :

Evacuation can be removing people from the area, but if this will create a larger hazard for the people being evacuated, then it will mean, sheltering in place:

Closing windows, turning off burners, air conditioners.... and leaving them where they are at, as long as they are inside a form of shelter.

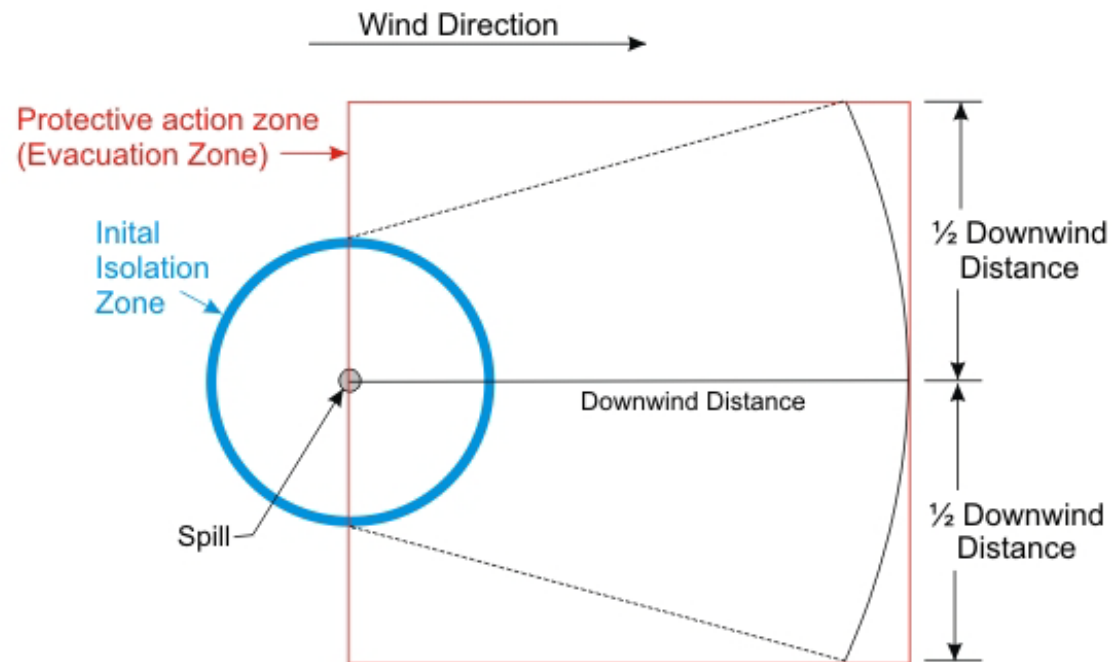
TABLE OF INITIAL ISOLATION AND PROTECTIVE ACTION DISTANCES

ID No.	NAME OF MATERIAL	SMALL SPILLS (From a small package or small leak from a large package)				LARGE SPILLS (From a large package or from many small packages)			
		First ISOLATE in all Directions Meters (Feet)		Then PROTECT persons Downwind during-		First ISOLATE in all Directions Meters (Feet)		Then PROTECT persons Downwind during-	
				DAY Kilometers (Miles)	NIGHT Kilometers (Miles)			DAY Kilometers (Miles)	NIGHT Kilometers (Miles)
1005	Ammonia, anhydrous	30 m (100 ft)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	60 m (200 ft)	0.6 km (0.4 mi)	2.2 km (1.4 mi)	
1005	Ammonia, anhydrous, liquefied								
1005	Ammonia, solution, with more than 50% Ammonia								
1005	Anhydrous ammonia	30 m (100 ft)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	60 m (200 ft)	0.6 km (0.4 mi)	2.2 km (1.4 mi)	
1005	Anhydrous ammonia, liquefied								
1008	Boron trifluoride	30 m (100 ft)	0.1 km (0.1 mi)	0.6 km (0.4 mi)	0.6 km (0.4 mi)	180 m (600 ft)	1.8 km (1.1 mi)	4.8 km (3.0 mi)	
1008	Boron trifluoride, compressed								
1016	Carbon monoxide	30 m (100 ft)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	90 m (300 ft)	0.7 km (0.4 mi)	2.4 km (1.5 mi)	
1016	Carbon monoxide, compressed								
1017	Chlorine	30 m (100 ft)	0.2 km (0.2 mi)	1.2 km (0.8 mi)	1.2 km (0.8 mi)	240 m (800 ft)	2.4 km (1.5 mi)	7.4 km (4.6 mi)	
1023	Coal gas	30 m (100 ft)	0.2 km (0.1 mi)	0.2 km (0.1 mi)	0.2 km (0.1 mi)	60 m (200 ft)	0.4 km (0.2 mi)	0.5 km (0.3 mi)	
1023	Coal gas, compressed								
1026	Cyanogen	30 m (100 ft)	0.2 km (0.2 mi)	1.2 km (0.8 mi)	1.2 km (0.8 mi)	120 m (400 ft)	1.1 km (0.7 mi)	4.3 km (2.7 mi)	
1026	Cyanogen, liquefied								
1026	Cyanogen gas								
1040	Ethylene oxide	30 m (100 ft)	0.1 km (0.1 mi)	0.2 km (0.1 mi)	0.1 km (0.1 mi)	90 m (300 ft)	0.8 km (0.5 mi)	2.4 km (1.5 mi)	
1040	Ethylene oxide with Nitrogen								
1045	Fluorine	30 m (100 ft)	0.2 km (0.1 mi)	0.5 km (0.3 mi)	0.5 km (0.3 mi)	90 m (300 ft)	0.8 km (0.5 mi)	3.5 km (2.2 mi)	
1045	Fluorine, compressed								
1048	Hydrogen bromide, anhydrous	30 m (100 ft)	0.1 km (0.1 mi)	0.5 km (0.3 mi)	0.5 km (0.3 mi)	180 m (600 ft)	1.8 km (1.1 mi)	5.7 km (3.6 mi)	
1050	Hydrogen chloride, anhydrous	30 m (100 ft)	0.1 km (0.1 mi)	0.4 km (0.3 mi)	0.4 km (0.3 mi)	360 m (1200 ft)	3.6 km (2.2 mi)	10.4 km (6.5 mi)	
1051	AC (when used as a weapon)	60 m (200 ft)	0.2 km (0.1 mi)	0.5 km (0.3 mi)	0.5 km (0.3 mi)	500 m (1500 ft)	1.7 km (1.0 mi)	3.9 km (2.4 mi)	

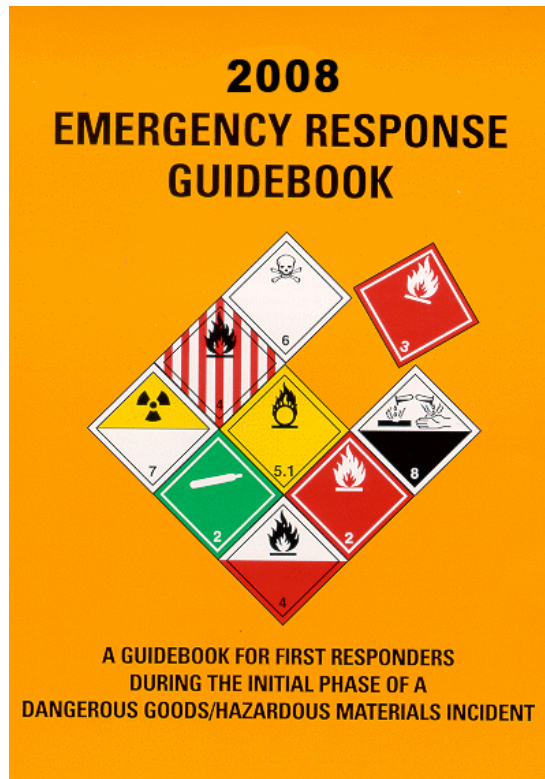
HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Putting what we now know to use, utilizing the ERG

Isolation & Protection Zones



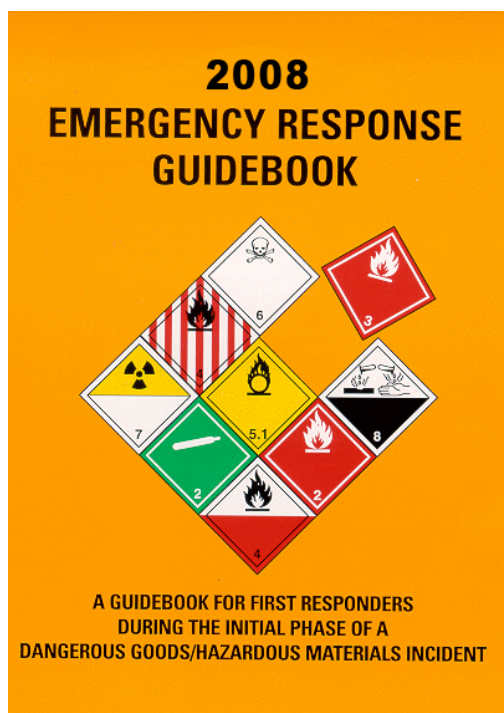
HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK



What if the Guide doesn't have the Information you need?

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Go to the last page of the Guide (inside back cover):



UNITED STATES

1. CHEMTREC®

1-800-424-9300

(Toll-free in the U.S., Canada, and the U.S. Virgin Islands)

703-527-3887 For calls originating elsewhere

(Collect calls are accepted)

2. CHEM-TEL, INC.

1-800-255-3924

(Toll-free in the U.S., Canada, and the U.S. Virgin Islands)

813-248-0585 For calls originating elsewhere

(Collect calls are accepted)

3. INFOTRAC

1-800-535-5053

(Toll-free in the U.S., Canada, and the U.S. Virgin Islands)

352-323-3500 For calls originating elsewhere

(Collect calls are accepted)

4. 3E COMPANY

1-800-451-8346

(Toll-free in the U.S., Canada, and the U.S. Virgin Islands)

760-602-8703 For calls originating elsewhere

(Collect calls are accepted)

5. MILITARY SHIPMENTS

703-697-0218 - Explosives/ammunition incidents

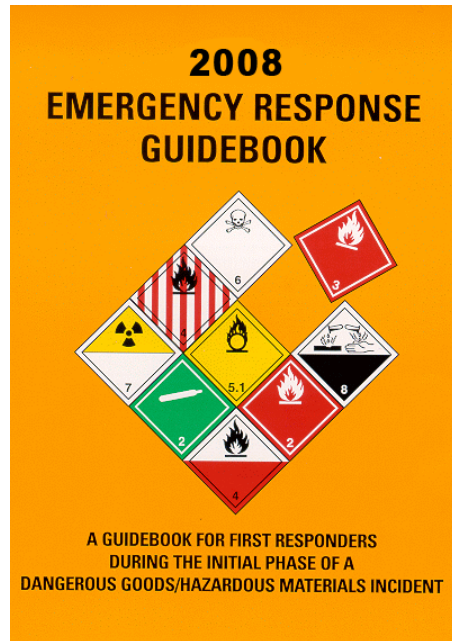
(Collect calls are accepted)

1-800-851-8061 - All other dangerous goods incidents

These are additional numbers to call, with 24 hours support,
they can help you further.

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

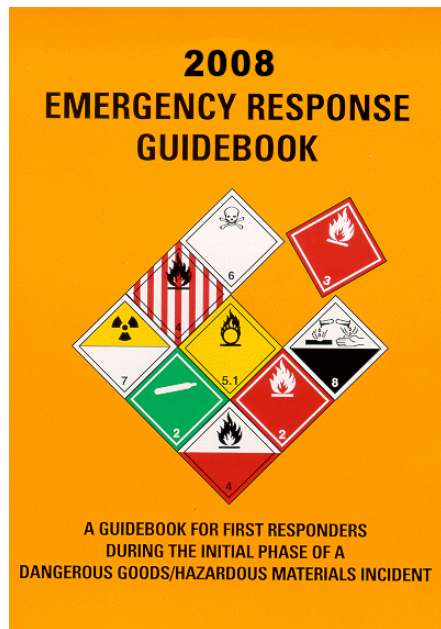
Lets Review:



If we know the products Name,
where in the guide will we look?

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Lets Review:

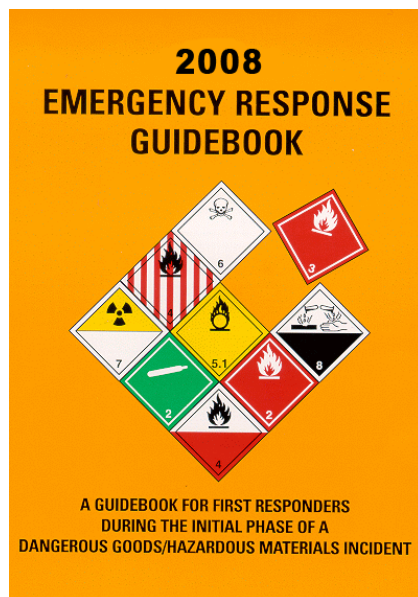


When we see a chemical name
highlighted in Green ,

What does it mean, and what extra things do we
need to do?

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Lets Review:

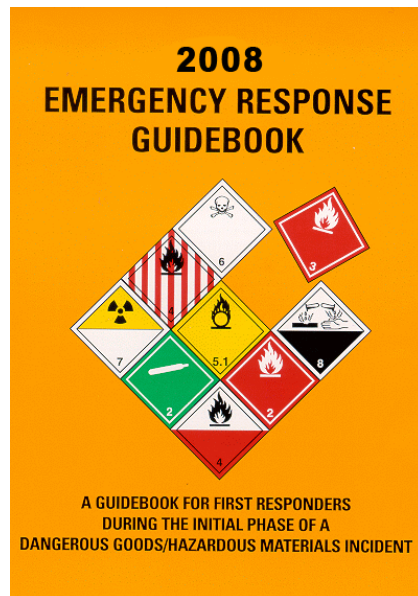


When we see a chemical name highlighted, What does it mean, and what extra thing do we need to do?

This means we are dealing with a gas besides using the **Orange** pages for guidance we'll need to go to the **Green** pages for Isolation and Evacuation distances.

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

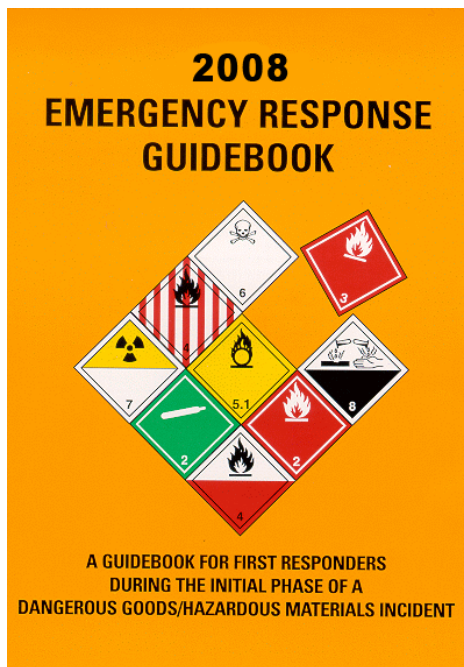
Lets Review:



Is the Emergency Response Guidebook an **Offensive** or **Defensive** tool and what tool is better used to handle an incident?

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Lets Review:



Is the Emergency Response Guidebook an Offensive or Defensive tool and what tool is better used to handle an incident?

The ERG is a **Defensive tool**, used to meet incident priorities: Recognition, Isolation, Protection, Notification

The **MSDS** (buildings), Bill of lading (roadway), Consist (train), Dangerous Cargo Manifest (boat), or Air Bill (plane), are usually more specific than the ERG, and should provide the same information and then some...

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Lets Review:

A tanker truck carrying the following product rolled over and is leaking from the top hatch.

NOW WHAT?



HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Lets Review:



The ID No. is 1202 and it is a flammable liquid
(Class 3, red placard);

The **YELLOW**-bordered pages indicate that the substance is
Diesel fuel or *Fuel oil*, and refers to **Guide 128**;

The substance is not highlighted; there is no need to use the
GREEN Section;

The **Guide 128** corresponds to
Flammable Liquids (Non-Polar / Water-Immiscible);

As an immediate precautionary measure, the Guide
suggests to isolate spill or leak area for at least 150 feet
in all directions.

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Lets Review:



At **Guide 128**, under the **Potential Hazards** Section, the **Fire or Explosion** hazards precede the **Health** hazards;

This type of substance is flammable and vapors may form explosive mixture with air;

Most vapors are heavier than air, they will spread along the ground and collect in low or confined areas;

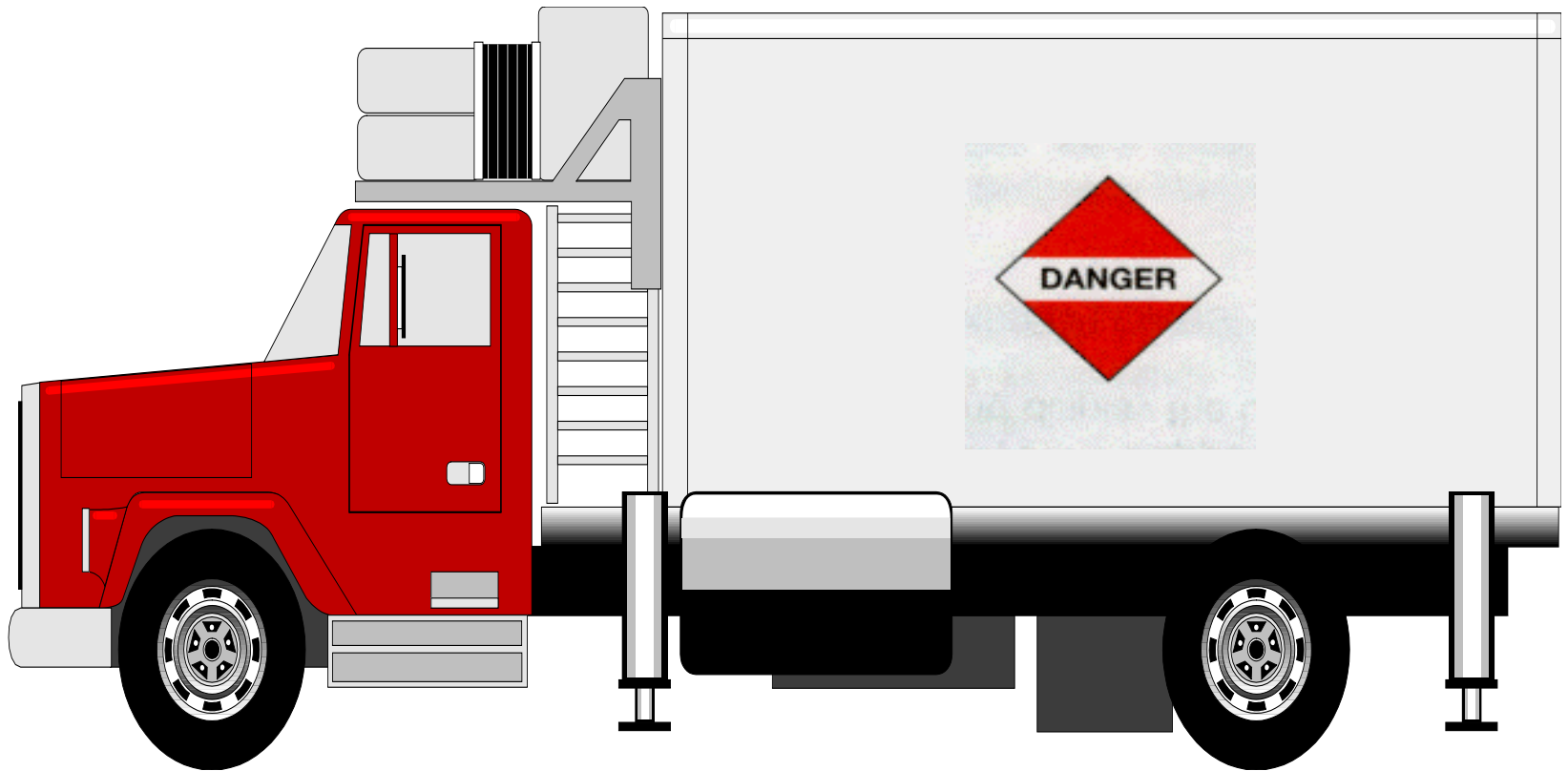
Containers may explode when heated;

Inhalation or contact with material may irritate or burn skin and eyes.

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

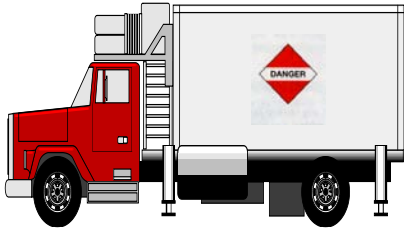
Lets Review:

This is your Hazard Call – Now what?



HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Lets Review:



There is no ID No. and the DANGER placard indicates a mixed load of dangerous goods;

In this case, refer to **Guide 111**,
Mixed Load / Unidentified Cargo;

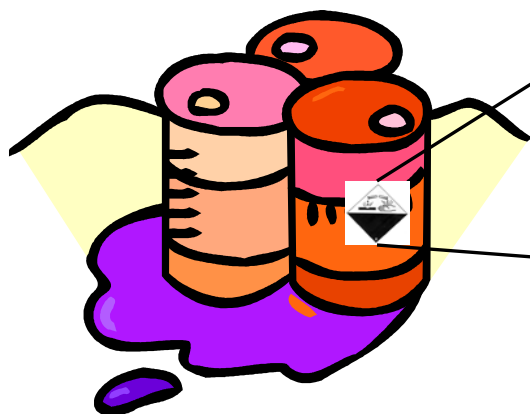
As an immediate precautionary measure, the Guide suggests to isolate the area for at least 330 feet in all directions, until the contents of the vehicle is known;

In case of fire, the Guide suggests to isolate for 1 mile in all directions and to consider an initial evacuation of ½ mile in all directions;

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Lets Review:

A drum containing this substance is punctured and is leaking on the ground.



HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Lets Review:



The ID No. is 2692;

The **YELLOW**-bordered pages indicate that this substance is called *Boron tribromide*;

It refers to **Guide 157** and is highlighted;

The **Guide 157** correspond to ***Substances – Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)***;

Since the substance is highlighted and there is a spill situation, the **GREEN** Section must be used to determine the Initial Isolation and Protective Action Distances;

For this product, the **GREEN** Section presents 2 separate entries for ID No. 2692: the 1st one applies when the product is spilled on the ground and the 2nd one, when it is spilled in water;

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Lets Review:



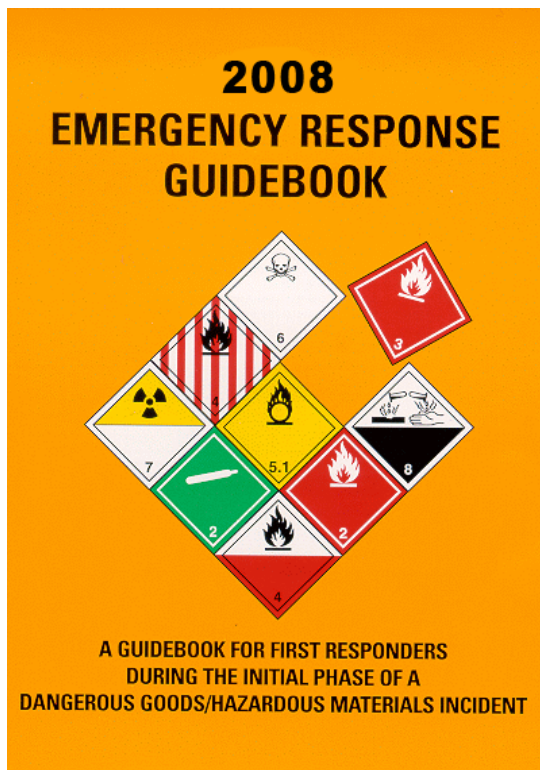
In this case, the product is spilled on the ground and the Initial Isolation Distance suggested in the **GREEN** Section is 90 feet in all directions for a small spill and 180 feet in all directions for a large spill;

Additionally, the Protective Action Distances for day and night will have to be taken from the **GREEN** Section;

The **Guide 157** indicates that this type of substance is toxic and non-combustible, but a fire will produce irritating, corrosive and/or toxic gases.

HOW TO USE AN EMERGENCY RESPONSE GUIDEBOOK

Final Words:



Remember our safety is ALWAYS the first concern and the top priority.

Don't become part of the event by making yourself a victim!

THE END