

Appendix A

OSHA 1910.120

Hazardous Waste Operations and Emergency Response

"Training shall be based on the duties and function to be performed by each responder of an emergency response organization. The skill and knowledge levels required for all new responders, those hired after the effective date of this standard, shall be conveyed to them through training before they are permitted to take part in actual emergency operations on an incident. Employees who participate, or are expected to participate, in emergency response shall be given training in accordance with the following paragraphs:

FIRST RESPONDER AWARENESS LEVEL

First responders at the awareness level are individuals who are likely to witness or discover a hazardous substance release and who have been trained to initiate an emergency response sequence by notifying the proper authorities of the release. They would take no further action beyond notifying the authorities of the release. First responders at the awareness level shall have sufficient training or have had sufficient experience to objectively demonstrate competency in the following areas:

- (A) An understanding of what hazardous materials are, and the risks associated with them in an incident.
- (B) An understanding of the potential outcomes associated with an emergency created when hazardous materials are present.
- (C) The ability to recognize the presence of hazardous materials in an emergency.
- (D) The ability to identify the hazardous materials, if possible.
- (E) An understanding of the role of the first responder awareness individual in the employer's emergency response plan including site security and control and the U. S. Department of Transportation's North American Emergency Response Guidebook.
- (F) The ability to realize the need for additional resources, and to make appropriate notifications to the communication center.

FIRST RESPONDER OPERATIONS LEVEL

First responders at the operations level are individuals who respond to releases or potential releases of hazardous substances as part of the initial response to the site for the purpose of protecting nearby persons, property, or the environment from the effects of the release. They are trained to respond in a defensive fashion without actually trying to stop the release. Their function is to contain the release from a safe distance, keep it from spreading, and prevent exposures. First responders at the operational level shall have received at least eight hours of training or have had sufficient experience to objectively demonstrate competency in the following areas in addition to those listed for the awareness level and the employer shall so certify:

- (A) Knowledge of the basic hazard and risk assessment techniques.

- (B) Know how to select and use proper personal protective equipment provided to the first responder operational level.
- (C) An understanding of basic hazardous materials terms.
- (D) Know how to perform basic control, containment and/or confinement operations within the capabilities of the resources and personal protective equipment available with their unit.
- (E) Know how to implement basic decontamination procedures.
- (F) An understanding of the relevant standard operating procedures and termination procedures.

HAZARDOUS MATERIALS TECHNICIAN

Hazardous materials technicians are individuals who respond to releases or potential releases for the purpose of stopping the release. They assume a more aggressive role than a first responder at the operations level in that they will approach the point of release in order to plug, patch or otherwise stop the release of a hazardous substance. Hazardous materials technicians shall have received at least 24 hours of training equal to the first responder operations level and in addition have competency in the following areas and the employer shall so certify:

- (A) Know how to implement the employer's emergency response plan.
- (B) Know the classification, identification and verification of known and unknown materials by using field survey instruments and equipment.
- (C) Be able to function within an assigned role in the Incident Command System.
- (D) Know how to select and use proper specialized chemical personal protective equipment provided to the hazardous materials technician.
- (E) Understand hazard and risk assessment techniques.
- (F) Be able to perform advance control, containment, and/or confinement operations within the capabilities of the resources and personal protective equipment available with the unit.
- (G) Understand and implement decontamination procedures.
- (H) Understand termination procedures.
- (I) Understand basic chemical and toxicological terminology and behavior.

HAZARDOUS MATERIALS SPECIALIST

Hazardous materials specialists are individuals who respond with and provide support to hazardous materials technicians. Their duties parallel those of the hazardous materials technician, however, those duties require a more directed or specific knowledge of the various substances they may be called upon to contain. The hazardous materials specialist would also act as the site liaison with federal, state, local and other government authorities in regard to the site activities. Hazardous materials specialists shall have received at least 24 hours of training equal to the technician level and in addition have competency in the following areas and the employer shall so certify:

- (A) Know how to implement the local emergency response plan.
- (B) Understand classification, identification and verification of known and unknown materials by using advanced survey instruments and equipment.

- (C) Know of the state emergency response plan.
- (D) Be able to select and use proper specialized chemical personal protective equipment provided to the hazardous materials specialist.
- (E) Understand in-depth hazard and risk techniques.
- (F) Be able to perform specialized control, containment, and/or confinement operations within the capabilities of the resources and personal protective equipment available.
- (G) Be able to determine and implement decontamination procedures.
- (H) Have the ability to develop a site safety and control plan.
- (I) Understand chemical, radiological and toxicological terminology and behavior.

ON SCENE INCIDENT COMMANDER

Incident commanders, who will assume control of the incident scene beyond the fire responder awareness level, shall receive at least 24 hours of training equal to the first responder operations level and in addition have competency in the following areas and the employer shall so certify:

- (A) Know and be able to implement the employer's incident command system.
- (B) Know how to implement the employer's emergency response plan.
- (C) Know and understand the hazards and risks associated with employees working in chemical protective clothing.
- (D) Know how to implement the local emergency response plan.
- (E) Know of the state emergency response plan and of the Federal Regional Response Team.
- (F) Know and understand the importance of decontamination procedures.

TRAINERS

Trainers who teach any of the above training subjects shall have satisfactorily completed a training course for teaching the subjects they are expected to teach, such as the courses offered by the U.S. Fire Academy, or they shall have the training and/or academic credentials and instructional experience necessary to demonstrate competent instructional skills and a good command of the subject matter of the courses they are to teach.

REFRESHER TRAINING

Those employees who are trained in accordance with paragraph (q)(6) of this section shall receive annual refresher training of sufficient content and duration to maintain their competencies, or shall demonstrate competency in those areas at least yearly.

A statement shall be made of the training or competency, and if a statement of competency is made, the employer shall keep a record of the methodology used to demonstrate competency.

APPENDIX B

GLOSSARY OF HAZARDOUS MATERIALS TERMINOLOGY

ABSOLUTE PRESSURE	Gauge pressure plus atmospheric pressure, abbreviated PSIA. (true pressure).
ABSORPTION	Taking in toxic material through contact with the skin
AEROSOL	A dispersion of particles of microscopic size in a gaseous medium. Particles may be solid (dust, fume, smoke) or liquid (mist or fog).
AIR BILL	A shipping paper prepared from a bill of lading that accompanies each piece of an air shipment.
AIR INVERSION	A meteorological condition in the earth's atmosphere in which the temperature of the air some distance above the earth's surface is higher than the air temperature of the surface. Normally, air temperatures decrease progressively as altitude increases. Such a condition traps air and released gases and vapors near the earth's surface, thus impeding their dispersion.
AIR-REACTIVE MATERIALS	Substances that will ignite at normal temperatures when exposed to air.
AMBIENT TEMPERATURE	The normal temperature of the environment.
ASPHYXIATING MATERIALS	Substances that can cause death through displacement of the oxygen in the air.
BARREL	42 U.S. gallons
BLEVE	Boiling Liquid Expanding Vapor Explosion. A container failure with a release of energy, often rapidly and violently, accompanied by a release of gas to the atmosphere, followed by ignition (fireball) and propulsion of the container or container pieces.
BOILING POINT	That temperature at which a substance changes from a liquid to a gas within the body of the liquid, varying in accordance with altitude and pressure.
BOILOVER	The violent expulsion of oil and froth from a tank due to the rapid expansion of the water into steam when the heat wave in the oil reaches the water layer, usually suspended toward the bottom of the tank of heavy or unrefined oil.
BULK CONTAINER	A cargo container such as that to a tank truck or tank car, used for transporting materials in bulk quantities.
BULK PLANT	That portion of a property where flammable or combustible liquids are received by tank vessel, pipeline, tank cars, or tank vehicle, are stored or blended in bulk for the purpose of distributing such liquids by tank vessel.
BUNTING	A cap or screw used to cover the small opening in the top of a metal drum or barrel.

CARBOY	A bottle or rectangular container for liquids of 5 to 15 gallon capacity that is made of glass, plastic or metal and is often cushioned in a protective container.
CARGO MANIFEST	A shipping paper that contains all of the contents being carried by the transporting vehicle or vessel.
CARGO TANK	Self-propelled tank vehicle on tires.
CAS	Chemical Abstract Service. Provides a registration number that identifies a specific chemical.
CHEMTREC	The Chemical Transportation Emergency Center, a telephone hotline for emergencies (800-424-9300).
CODE OF FEDERAL REGULATIONS	A codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the federal government.
COLD ZONE	This area contains the command post and other support functions as are deemed necessary to control the incident. This is also referred to as the clean zone or support zone.
COMBUSTIBLE LIQUID	Any liquid having a flash point at or above 100° F.
COMBUSTION EXPLOSION	Sudden fracture of a container or structure accompanied by a shock wave (sound). Combustion of a flammable mixture within a container or structure producing a gas pressure greater than the container or structure can withstand.
COMPRESSED GAS	Any material or mixture which, when enclosed in a container, has an absolute pressure exceeding 40 psi at 70° F (or) exceeding 140 psi at 130°.
COMPRESSED GAS IN SOLUTION	A nonliquefied gas that is dissolved in a solvent, but in solution at high pressures (acetylene).
CONFINEMENT	Those procedures taken to keep a material in a defined or local area.
CONSIGNEE	The person who is to receive a shipment.
CONSIST	A rail shipping paper similar to a cargo manifest. It may contain a list of the cars in the train in order or a list of those cars carrying hazardous materials and their location in the train.
CONTAINER	Any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, or the like that contains a hazardous material.
CONTAINMENT	Those procedures taken to keep a material in its container.
CONTAINER SPECIFICATION NUMBER	A number found on a shipping container preceded by the initials DOT, which indicates that the container has been built according to federal specifications.

CONTAMINANT /CONTAMINATION	A substance or process that poses a threat to life, health, or the environment.
CONTROL	The procedures, techniques, and methods used in the mitigation of a hazardous materials incident, including containment, extinguishment, and confinement.
CONTROL AGENTS	Any material that is used to contain or extinguish a hazardous material or its vapors.
CONTROL ZONES	The designation of areas at a hazardous materials incident based upon safety and degree of hazard. Many terms are used to describe the zones involved in a hazardous materials incident.
COORDINATION	The process used to get people, who may represent different agencies, to work together harmoniously in a common action or effort.
CORRECTIVE ACTIONS	Actions taken by the Incident Commander to correct the problem at hand in a hazardous materials emergency.
CORROSIVE MATERIAL	Any liquid or solid that can destroy human skin tissue, or a liquid has severe corrosion rate on steel.
CRYOGENIC LIQUID	Gases which must be cooled to a very low temperature to bring about a change from gas to liquid. Stored at temperatures from -150° F to absolute zero (-459.7°).
DANGEROUS CARGO MANIFEST	A cargo manifest used on ships that contains a list of all the hazardous materials on board, including their location.
DECONTAMINATION (CONTAMINATION REDUCTION)	The physical and/or chemical process of reducing and preventing the spread of contamination from persons and equipment used at a hazardous materials incident.
DECONTAMINATION AREA	The area, usually located within the Warm Zone, where decontamination takes place.
DEFLAGRATION	The intense burning rate of some explosives (e.g., fireworks).
DEGRADATION	A chemical action involving the molecular breakdown of a protective clothing material due to contact with a chemical. The term degradation may also refer to the molecular breakdown of the spilled or released material to render it less hazardous.
DEMONSTRATE	To show by actual use. This may be supplemented by simulation, explanation, illustration, or a combination of these.
DETONATION	A wave that passes along the body of an explosive, instantaneously converting the explosive into gas (e.g., dynamite).
DOMES	The circular cover on the top of a tank car that contains valves and relief valves.

DIKES	Earthen or concrete walls surrounding chemical tanks designed to catch overflow from tanks and relieve the danger of flowing liquids spreading to other exposures.
EMERGENCY SHUT-OFF LEVER	A means of operating a valve that stops the flow of a liquid.
ENDANGERED PERSONS	Those persons who are in the exposure area created by a hazardous materials incident.
EQUILIBRIUM	The condition within a container, when the number of molecules leaving a liquid is <i>limited</i> to the number of molecules rebounding into the liquid.
ETIOLOGIC AGENT	A living micro-organism that may cause human disease (e.g., germs).
EXCESS FLOW VALVE	A safety valve designed to shut off the flow of a liquid when the flow exceeds a pre-set rate.
EXPLOSIVE	A material capable of burning or bursting suddenly and violently.
EXPLOSIVE LIMITS	All concentrations of a mixture of flammable vapor or gas in air, usually expressed in percent by volume, in which a flash will occur or a flame will travel if the mixture is ignited.
EXPOSURES	People, the environment, or property that are or may be exposed to the harmful effects of a hazardous materials emergency.
FEEDBACK	An element of a system that is the return of a portion of the output to the input. This allows the system to evaluate itself.
FIRE POINT	The lowest temperature of a liquid at which vapors are evolved fast enough to support continuous combustion.
FLAME IMPINGEMENT	The points where flames contact the surface of a container.
FLAMMABLE GAS	In order to be considered a "flammable" gas, a chemical must have an LFL of 13% or below, or a flammable range of 12% (<i>U.S. Department of Transportation</i>)
FLAMMABLE LIQUID	Any liquid having a flash point below 100° F.
FLAMMABLE MATERIAL	A substance that is capable of being easily ignited and burning rapidly.
FLAMMABLE SOLID	Any material, other than an explosive, that is liable to cause fires through friction, retained heat from manufacturing or processing, or that can be ignited readily and when ignited burns so vigorously and persistently as to create a serious transportation hazard.
FLASHBACK	Re-ignition of a flammable liquid caused by exposure of its vapors to an ignition source.

FLASH POINT	The lowest temperature at which a liquid substance gives off flammable vapors sufficient to form an ignitable mixture with air near the surface of the liquid. Combustion is not continuous at the flash point.
FLOATING ROOF	A type of roof used on oil tanks to stop evaporation loss and reduce the fire hazard by reaching the vapor space over the liquid.
FROTHOVER	A steady, slow frothing over the rim of a tank without the sudden violent action that occurs in a boilover.
FUSIBLE PLUG	A safety relief device in the form of a plug of low melting metal. The plug closes the safety relief device channel under normal conditions, and is intended to yield or melt at a set temperature to permit the escape of gas.
GAS	A formless atmosphere which occupies completely the space or an enclosure.
GAUGE PRESSURE	The pressure read on a gauge, which does not take atmospheric pressure into account. The abbreviation for this pressure is PSIG.
HATCH PLAN	A schematic drawing of the location of all cargo on a ship (also referred to as a stowage plan).
HAZARD/HAZARDOUS	Capable of posing an unreasonable risk to health, safety, or the environment; capable of doing harm.
HAZARD CLASS	A group of materials, as designated by the Department of Transportation, that share a common major hazardous property (e.g., radioactivity, flammability).
HAZARD SECTOR	That function of an overall Incident Command System that deals with the actual mitigation of a hazardous materials incident. It is directed by a sector officer and principally deals with the technical aspects of the incident.
HAZARD SECTOR OFFICER	The person responsible for the management of the hazard sector.
HAZARDOUS MATERIAL	A substance that poses an unreasonable risk to life, the environment, or property when released from its container.
HAZARDOUS MATERIALS RESPONSE TEAM	A group of trained response personnel operating under an emergency response plan and appropriate standard operating procedures to control or otherwise minimize or eliminate the hazards to people, property, or the environment from a released hazardous material.
HEAT WAVE	A layer of hot liquid in a tank, produced by the heat of the burning vapor at the top of the tank. As the burning progresses, this layer becomes thicker, extending down into the liquid in the tank.
HIGH TEMPERATURE PROTECTIVE CLOTHING	Protective clothing designed to protect the wearer during short-term high temperature exposures. This type of clothing is usually of limited use in dealing with chemical commodities.

HOT ZONE	The area immediately surrounding a hazardous materials incident, which extends far enough to prevent adverse effects from hazardous materials releases to personnel outside the zone. This zone is also referred to as the exclusion zone or restricted zone.
IDLH	Immediately Dangerous to Life and Health. The maximum level of concentration from which one could escape within thirty minutes without any impairing symptoms or irreversible health effects.
IGNITION TEMPERATURE	The minimum temperature to which a substance must be heated in order to initiate self-sustained combustion (burning).
INCIDENT	A fire involving a hazardous material, a release, or a potential release of a hazardous material.
INCIDENT COMMAND SYSTEM	An organized system of roles, responsibilities, and standard operating procedures used to manage and direct emergency operations.
INCIDENT COMMANDER	The person responsible for all decisions relating to the management of the incident. The incident commander is in charge at the incident.
INCIPIENT FIRES	Fires that are in the beginning stages.
INDIVIDUAL CONTAINER	A cargo container, such as a box or drum, used to transport materials in small quantities.
INGESTION	The taking in of toxic materials through the mouth.
INHALATION	The taking in of toxic materials by breathing through the nose or mouth.
IRRITATING MATERIALS	Liquids or solid substances which, upon contact with fire or when exposed to air, give off dangerous or intensely irritating fumes.
LABELS	Four-inch-square diamond markers required on individual shipping containers that are smaller than 640 cu. ft.
LIGHT ENDS	Petroleum products which have relatively low flash points and high vapor pressure. Common light ends are methane, ethane, propane and butane.
LIQUEFIED GAS	A gas that is partially liquid at a temperature of 70°F.
LIQUEFIED PETROLEUM GAS	Gases which can be liquefied under moderate pressures. Common LPGs are butane and propane.
LOW PRESSURE TANK	A storage tank which has been designed to operate at pressure above 0.5 psi but not more than 15 psi.
MATERIAL SAFETY DATA SHEET (MSDS)	Provided by manufacturers and compounders (blenders) of chemicals, with minimum information about chemical composition, physical and chemical properties, health and safety hazards, emergency response, and waste disposal of the material as required by OSHA 29 CFR 1910.120.

MISCIBILITY	A liquid's ability to mix with water.
MONITORING EQUIPMENT	Instruments and devices used to identify and quantify contaminants.
NON-FLAMMABLE GAS	A compressed gas not classified as flammable.
NON-LIQUEFIED GAS	A gas that is entirely gaseous at a temperature of 70° F.
N.O.S.	Not Otherwise Stated or Not Otherwise Specified.
ORGANIC PEROXIDE	An organic derivative of the inorganic compound hydrogen peroxide.
O.R.M.	Other Regulated Material. Materials that do not meet the definitions of hazardous materials, but possess enough hazardous characteristics that they require some regulation.
OXIDIZERS	A substance that yields oxygen readily to stimulate the combustion of organic matter and inorganic matter.
OXIDATING ABILITY	The ability to yield oxygen readily to stimulate combustion.
PACKAGING	Any container that holds a material (hazardous or non-hazardous). Packaging includes nonbulk and bulk packaging.
PACKAGE MARKINGS	The descriptive name, instructions, cautions, weight, or specification marks required to be placed on the outside containers of hazardous materials.
PENETRATION	The movement of a material through a suit's closure, such as zippers, buttonholes, seams, flaps, or other design features of chemical protective clothing, and through punctures, cuts, and tears.
PERMEATION	A chemical action involving the movement of chemicals, on a molecular level, through intact material.
PERSONAL PROTECTIVE EQUIPMENT	The equipment provided to shield or isolate a person from the chemical, physical, and thermal hazards that may be encountered at a hazardous materials incident. Adequate personal protective equipment should protect the respiratory system, skin, eyes, face, hands, feet, head, body, and hearing. Personal protective equipment includes both personal protective clothing and respiratory protection.
PIGGYBACK TRANSPORT	A type of shipping in which bulk containers from one mode, such as highway transportation, are placed on flat cars or container ships for transportation by another mode, such as marine.
PLACARDS	10-3/4" square diamond markers required on the transporting vehicle such as a truck or tank car, or a freight container 640 cu. ft. or larger.
POISON	A substance that kills or seriously harms the living substances it comes in contact with.

POLAR SOLVENT	Any flammable liquid that is miscible and destroys regular foam by mixing with water in the foam.
POLIMERIZATION	A chemical reaction in which two or more small molecules combine to form a larger molecule. The reaction usually produces large amounts of heat and pressure which may be extremely violent.
P.P.M.	Parts Per Million. A unit of measure used to determine the concentration of a material present.
PRESSURE VESSEL	A storage tank or vessel which has been designed to operate at pressure above 15 psi.
PREVENTIVE ACTIONS	Actions taken by the Incident Commander at an emergency to prevent the problem from increasing, thereby keeping losses to a minimum.
PROTECTIVE CLOTHING	Equipment designed to protect the wearer from heat and/or hazardous materials contacting the skin or eyes. Protective clothing is divided into three types: (a) structural firefighting protective clothing (b) chemical protective clothing (c) high temperature protective clothing
PYRPHORIC LIQUID	Any liquid capable of igniting spontaneously when exposed to dry or moist air.
RADIOACTIVE MATERIAL	(RAM) Any material that spontaneously emits ionizing radiation.
REFINERY	A place where crude materials are purified.
RESOURCES	All of the immediate or supportive assistance available to help control an incident, including personnel, equipment, control agents, and printed emergency guides.
RESPIRATORY PROTECTION	Equipment designed to protect the wearer from the inhalation of contaminants. Respiratory protection is divided into three types: (a) positive pressure self-contained breathing apparatus (b) positive pressure self-contained air respirators (c) air purifying respirators
RESPONSE	That portion of incident management in which personnel are involved in controlling a hazardous materials incident.
RUPTURE DISC	A safety relief device in the form of a metal disc that closes the relief channel under normal conditions. The disc bursts at a set pressure to permit the escape of gas.
SAFETY RELIEF VALVE	A device found on pressure tanks containing an operating part that is held in place by spring force. Valves open and close at set pressures.
SHEER SECTION	A safety feature, incorporated in cargo tank piping and fittings, designed to fail or break to prevent damage to shut-off valves or the tank itself.

SHIPPING PAPERS	A shipping order, bill of lading, manifest, or other shipping documents issued by the carrier.
SLOPOVER	An expulsion of oil and froth from the surface of a tank, produced when water or foam is applied to a burning liquid surface.
SOLUBILITY	A measure of the amount of a substance that will dissolve in another substance. Water solubility means a substance will dissolve in water.
SPECIFIC GRAVITY	The weight of a substance as compared to the weight of an equal volume of water (for solids or liquids) or an equal volume of air (for gases).
STABILIZATION	The stage of an incident when the immediate problem or emergency has been controlled, contained, or extinguished.
STAGE OF INCIDENT	One of the five definite and identifiable phases through which an emergency passes from onset (interruption of normal conditions) to stabilization.
STANDARD TRANSPORTATION COMMODITY CODE ("STCC NUMBER")	A listing of code numbers for categories of articles being shipped, in general use by carriers. A seven digit number, if started with 49 signifies a hazardous material.
STRESS	A state of tension put on or in a container by internal chemical action, external mechanical damage, or external flames or heat.
STRUCTURAL FIREFIGHTERS' PROTECTIVE CLOTHING	Clothing that will prevent gases, vapors, liquids, and solids from coming in contact with the skin. Structural firefighters' protective clothing includes the helmet, self-contained breathing apparatus, coat and pants customarily worn by firefighters (turn-out or bunker coat and pants), rubber boots, gloves, bands around legs, arms and waist and face mask, as well as covering for neck, ears, and other parts of the head not protected by the helmet, breathing apparatus, or face mask.
SUBSURFACE INJECTION	Discharge of foam or water into a storage tank from an outlet at the bottom or below the liquid surface.
SWITCH LIST	A list of cars in a train used by a railroad crew personnel in a yard when they are making a train.
TACTICS	Successful methods or procedures used to deploy various tactical units (resources) to achieve objectives.
TANK BARGE	Tank vessel that is towed.
TANK CAR	Tank vehicle on rails.
TANK FARM	An area occupied by oil tanks of an oil refinery.
TANK SHIP	Self-propelled tank vessel.

TANK TRAILER	Tank vehicle that is towed.
TERMINATION	That portion of incident management in which personnel are involved in documenting safety procedures, site operations, hazards faced, and lessons learned from incident. Termination is divided into three phases: debriefing the incident, post-incident analysis, and critiquing the incident.
TOXICITY	The ability of a substance to cause injury to biologic tissue.
TOXIC MATERIALS	Substances that can be poisonous if inhaled, swallowed or absorbed into the body through the skin.
UNSTABLE MATERIALS	Substances capable of rapidly undergoing chemical changes or decomposition.
VAPOR	Gas given off, with or without the aid of heat, by substances that under ordinary circumstances are either solid or liquid.
VAPOR DENSITY	A measurement of the relative density of a vapor as compared with air. Strictly speaking, it is the weight of the volume of the vapor as compared with the equal volume of dry air at the same temperature and pressure. A figure of less than 1 indicates a vapor that is lighter than air. A figure that is more than 1 indicates a vapor that is heavier than air.
VAPORIZATION	The process of changing from liquid to vapor.
VAPOR PRESSURE	The pressure exerted by a liquid in vaporizing in a closed container. This pressure will vary with different liquids and will vary depending upon temperature.
VAPOR SPACE	Space left empty inside a tank containing liquefied gas to allow for expansion of the gas due to normal changes in the temperature.
VISCOSITY	The flow resistance of a liquid. This characteristic increases or decreases with the temperature of the liquid. Low viscosity liquids have little adhesive qualities and hence flow freely.
WARM ZONE	The area where personnel and equipment decontamination and Hot Zone support takes place. It includes control points for the access corridor and thus assists in reducing the spread of contamination. This is also referred to as the decontamination, contamination reduction, or limited access zone/corridor.
WATER-REACTIVE	Substances, generally flammable solids, that will react in varying degrees when mixed with water or when they come in contact with humid air.
WATER SOLUBILITY WAYBILL	The ability of a liquid or solid to mix with or dissolve in water. The shipping paper prepared by the railroad from a bill of lading. Waybills generally accompany a shipment and are carried by a conductor in the caboose of the train.
WEAK SEAM	In oil tanks, a special roof-to-shell seam attachment is designed to give under overpressure and release vapor from the vapor space.