



NATIONAL TRANSPORTATION SAFETY BOARD - **Public Hearing**

Conrail Derailment in Paulsboro, NJ with Vinyl Chloride Release

<b>GROUP</b>	<b>3</b>
<b>EXHIBIT</b>	
<b>BM</b>	

Agency / Organization

Pipeline and Hazardous Materials Safety Admin.

Title

## 2012 PHMSA Emergency Response Guide (ERG) - Vinyl Chloride



# 2012

## EMERGENCY RESPONSE GUIDEBOOK

A Guidebook for First Responders During the Initial Phase of a Dangerous Goods/Hazardous Materials Transportation Incident



U.S. Department of Transportation  
**Pipeline and Hazardous Materials Safety Administration**



Transport Canada

Transports Canada



Secretariat of Transport and Communications

**ID Guide Name of Material**  
**No. No.**

1066 121 Nitrogen, compressed  
1067 124 Dinitrogen tetroxide  
1067 124 Nitrogen dioxide  
1069 125 Nitrosyl chloride  
1070 122 Nitrous oxide  
1070 122 Nitrous oxide, compressed  
1071 119 Oil gas  
1071 119 Oil gas, compressed  
1072 122 Oxygen  
1072 122 Oxygen, compressed  
1073 122 Oxygen, refrigerated liquid  
(cryogenic liquid)  
1075 115 Butane  
1075 115 Butane mixture  
1075 115 Butylene  
1075 115 Isobutane  
1075 115 Isobutane mixture  
1075 115 Isobutylene  
1075 115 Liquefied petroleum gas  
1075 115 LPG  
1075 115 Petroleum gases, liquefied  
1075 115 Propane  
1075 115 Propane mixture  
1075 115 Propylene  
1076 125 CG  
1076 125 Diphosgene  
1076 125 DP  
1076 125 Phosgene  
1077 115 Propylene  
1078 126 Dispersant gas, n.o.s.  
1078 126 Refrigerant gas, n.o.s.

**ID Guide Name of Material**  
**No. No.**

1079 125 Sulfur dioxide  
1079 125 Sulphur dioxide  
1080 126 Sulfur hexafluoride  
1080 126 Sulphur hexafluoride  
1081 116P Tetrafluoroethylene, stabilized  
1082 119P Trifluorochloroethylene,  
stabilized  
1083 118 Trimethylamine, anhydrous  
1085 116P Vinyl bromide, stabilized  
1086 116P Vinyl chloride, stabilized  
1087 116P Vinyl methyl ether, stabilized  
1088 127 Acetal  
1089 129 Acetaldehyde  
1090 127 Acetone  
1091 127 Acetone oils  
1092 131P Acrolein, stabilized  
1093 131P Acrylonitrile, stabilized  
1098 131 Allyl alcohol  
1099 131 Allyl bromide  
1100 131 Allyl chloride  
1104 129 Amyl acetates  
1105 129 Amyl alcohols  
1105 129 Pentanols  
1106 132 Amylamines  
1107 129 Amyl chloride  
1108 128 n-Amylene  
1108 128 1-Pentene  
1109 129 Amyl formates  
1110 127 n-Amyl methyl ketone  
1110 127 Amyl methyl ketone  
1110 127 Methyl amyl ketone

**POTENTIAL HAZARDS****FIRE OR EXPLOSION**

- **EXTREMELY FLAMMABLE.**
- Will be easily ignited by heat, sparks or flames.
- Will form explosive mixtures with air.
- Silane will ignite spontaneously in air.
- Those substances designated with a (P) may polymerize explosively when heated or involved in a fire.
- Vapors from liquefied gas are initially heavier than air and spread along ground.
- Vapors may travel to source of ignition and flash back.
- Cylinders exposed to fire may vent and release flammable gas through pressure relief devices.
- Containers may explode when heated.
- Ruptured cylinders may rocket.

**HEALTH**

- Vapors may cause dizziness or asphyxiation without warning.
- Some may be toxic if inhaled at high concentrations.
- Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
- Fire may produce irritating and/or toxic gases.

**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.
- Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Keep out of low areas.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing will only provide limited protection.

**EVACUATION****Large Spill**

- Consider initial downwind evacuation for at least 800 meters (1/2 mile).

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions.

**EMERGENCY RESPONSE****FIRE**

- **DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED.**

**Small Fire**

- Dry chemical or CO<sub>2</sub>.

**Large Fire**

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

**Fire involving Tanks**

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Do not direct water at source of leak or safety devices; icing may occur.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

**SPILL OR LEAK**

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Stop leak if you can do it without risk.
- Do not touch or walk through spilled material.
- Do not direct water at spill or source of leak.
- Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.
- If possible, turn leaking containers so that gas escapes rather than liquid.
- Prevent entry into waterways, sewers, basements or confined areas.
- Isolate area until gas has dispersed.

**FIRST AID**

- Move victim to fresh air.
- Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with liquefied gas, thaw frosted parts with lukewarm water.
- In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin.
- Keep victim warm and quiet.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.