NATIONAL TRANSPORTATION SAFETY BOARD
Investigative Hearing
Norfolk Southern Railway general merchandise freight train 32N derailment with subsequent hazardous material release and fires, in East Palestine, Ohio, on February 3, 2023

GROUP	D
EXHIBIT	
29	

Agency / Organization

Oxy Vinyls, LP

Title

Excerpts From:
SITTIG'S HANDBOOK OF TOXIC AND HAZARDOUS CHEMICALS AND CARCINOGENS
Sixth Edition

SITTIG'S HANDBOOK OF TOXIC AND HAZARDOUS CHEMICALS AND CARCINOGENS

Sixth Edition

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Description: Vinyl chloride is a flammable gas at room temperature, and is usually encountered as a cooled liquid. The colorless liquid forms vapors which have a pleasant, ethereal odor. The odor threshold is variously given as 260 ppm,[41] 3000 ppm (NJ fact sheet), 4000 ppm (NY fact sheet) in air and 3.4 ppm in water (EPA Toxicological profile). Shipped as a liquefied compressed gas. Molecular weight = 62.50; Specific gravity (H_2O:1) = 0.88 (Liquid) at 25°C; Boiling point = −14°C; Freezing/Melting point = −160°C; Relative vapor density (air = 1) = 2.21; Flash point = flammable gas at −75°C (cc); Autoignition temperature = 472°C. Explosive limits: LEL = 3.6%; UEL = 33.0%. Hazard Identification (based on NFPA-704 M Rating System): Health 2, Flammability 4, Reactivity 2. Insoluble in water; 0.1% at 25°C.

Potential Exposure: Compound Description: Agricultural Chemical; Tumorigen, Mutagen; Reproductive Effector; Human Data. Vinyl chloride is used as a vinyl monomer in the manufacture of polyvinyl chloride (vinyl chloride homopolymer) and other copolymer resins. It is also used as a chemical intermediate and as a solvent.

Incompatibilities: Copper, oxidizers, aluminum, peroxides, iron, steel. Polymerizes in air, sunlight, heat, and on contact with a catalyst, strong oxidizers, and metals, such as aluminum and copper, unless stabilized by inhibitors, such as phenol. Attacks iron and steel in the presence of moisture.

Fire Extinguishing: Vinyl chloride is a flammable gas. Use dry chemical or CO_2 extinguishers. Poisonous gases are produced in fire, including phosgene, hydrogen chloride, and carbon monoxide. Fire may restart after it has been extinguished. Do not extinguish the fire unless the flow of gas can be stopped and any remaining gas is out of the line. Specially trained personnel may use fog lines to cool exposures and let the fire burn itself out. Vapors are heavier than air and will collect in low areas. Vapors may travel long distances to ignition sources and flashback. Vapors in confined areas may explode when exposed to fire. Containers may explode in fire. Storage containers and parts of containers may rocket great distances, in many directions. If material or contaminated runoff enters waterways, notify downstream users of potentially contaminated waters. Notify local health and fire officials and pollution control agencies. From a secure, explosion-proof location, use water spray to cool exposed containers. If cooling streams are ineffective (venting sound increases in volume and pitch, tank discolors, or shows any signs of deforming), withdraw immediately to a secure position. If cylinders are exposed to excessive heat from fire or flame contact, withdraw immediately to a secure location. If employees are expected to fight fires, they must be trained and equipped in OSHA 1910.156. The only respirators recommended for firefighting are self-contained breathing apparatuses that have full face-pieces and are operated in a pressure-demand or other positive-pressure mode.