The Vinyl Institute

A Division of The Society of The Plastics Industry, Inc.

- ★ Billions of pounds of VCM are shipped annually without incident.
- ★ Only four significant VCM-related accidents in the last 10 years.
- ★ Industry helps police the transport of VCM.
- ★ PVC is not a transportation hazard.

Environmental Profile: Facts About the PVC Industry's Record of Transportation Safety

About 12 billion pounds of VCM (vinyl chloride monomer) are produced annually in the United States, with most of that total converted into PVC resin.[1]

In most cases, VCM is produced at one location, then shipped via rail, barge, or pipeline to another site where it is converted. However, more and more PVC production facilities are being located near VCM manufacturing sites so that minimal VCM transportation is required. In these cases, the VCM is transferred by pipeline, thereby virtually eliminating any possible transportation hazard. About half of all VCM is now transported by pipeline.

Transport Closely Regulated

In its natural state, VCM is a gas. To transport it, it is converted to a liquid — more precisely, a liquefied gas under pressure. Like other gaseous liquids, it is considered volatile and should be handled with caution. This is the same precaution that is applied to handling propane, gasoline or any other volatile material. Industry currently meets or exceeds U.S. Department of Transportation requirements for VCM railcar specifications.

About five billion pounds of VCM are shipped via railcar throughout the U.S. annually. Yet since 1982, there have been only four significant accidents involving VCM. And, while 18 railcars were damaged in these incidents, only one of the cars leaked VCM into the environment.[2] This safety record compares with a total of 3,045 freight rail accidents reported nationwide in 1990 alone.[3] Many manufacturers have replaced their VCM tank cars with "full headshield" designs, which has played a significant role in reducing the likelihood of a spill or leak in the event of impact or accident.

Industry Programs Boost Record

While the fact that so many pounds of VCM are transported each year without incident is largely due to improved railcar design, the PVC industry and the chemical industry have also established a number of voluntary programs to help improve transportation practices, provide mutual aid for incidents, enhance safety awareness among local safety forces, and share information about shipping VCM. These programs include the VCNet and ChemTrec programs operated by the Chemical Manufacturers Association, and the Compressed Gas Mutual Aid program. Safety officials throughout the country routinely rely on these programs for guidance in handling emergency response situations and for other information related to the safe transport of VCM.

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PVC Not a Hazard

Millions of pounds of PVC resin are shipped throughout the U.S. each year by rail and truck without incident. PVC resin is classified by DOT regulations as a nonhazardous material and therefore, only normal precautions are required to ship it. On occasion, PVC resin is spilled in transit, but it presents no threat to human health or the environment when this happens. Cleanup typically is limited to sweeping up the spilled material and disposing of it following standard disposal practices for nonhazardous waste, or returning it to the manufacturer for reprocessing into second generation material.

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[1]Chemical Market Associates, Inc. 1992 statistics.
[2]Chemical Market Associates.
[3]Accident/Incident Bulletin, Federal Rail Administration, July 1992

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