MATERIAL SAFETY DATA SHEET

GEON® 8720 PVC COMPOUND

ISSUED: JANUARY, 1982

This safety data sheet supplements information about Geon® vinyls presented in BFGoodrich Bulletin G-62. Please read and understand the information presented in Bulletin G-62 as well as this information.

SECTION I

Manufacturer's Name	Telephone Number	Transportation Emergency Telephone
The BFGoodrich Company Chemical Group	(216) 447-6000	CHEMTREC: (800)424-9300
Address	**Chemical Family**	**Trademark**
6100 Oak Tree Blvd. Cleveland, Ohio 44131	Polyvinyl chloride & nitrile rubber	Geon® 8720 PVC Compound
Chemical Name/Synonyms		**Formula**
Blend of polyvinyl chloride (PVC) and nitrile rubber (acrylonitrile/butadiene)		$-CH_2\ CHCl-$ $-CH_2.CH{:}CH\cdot(CH_2)_2.CH(CN)-$

SECTION II - HAZARDOUS INGREDIENTS

	Average Amount In Product	ACGIH TLV-TWA	OSHA PEL
Residual vinyl chloride	< 25 ppm	5ppm	1ppm(1)
Residual acrylonitrile	< 5 ppm	2ppm	2ppm(2)
Residual butadiene	NM	---See Appendix A---	
Lead oxide*	< 8%	0.15 mg/m^3	50 ug/m^3(3)

(1) OSHA 1910.1017(CFR Title 29). See Appendix B
(2) OSHA 1910.1045(CFR Title 29). See Appendix C
(3) OSHA 1910.1025(CFR Title 29).

*Contained in stabilizer. Lead is typically bound-up in our manufacturing process an is not expected to create any hazard in handling or processing.

Notes:
- TLV-TWA: Threshold Limit Value - Time Weighted Average for concentration of the chemical substance in the ambient workplace air. American Conference of Governmental Industrial Hygienists, 1981 Edition.
- OSHA PEL: OSHA Permissible Exposure Limit, 8-hour TWA.
- < means "less than"
- NM means "not measured".

SECTION III - PHYSICAL DATA (Typical data, not specifications)

Boiling Point	Melt Point	Specific Gravity (H_2O=1)
Not Applicable (NA)	> 320°F (160°C)*	1.20

Solubility in Water	% Volatile by Weight	Vapor Density (Air = 1)
Insoluble	< 1.0%	NA

Appearance and Odor
Natural or pigmented cubical granules. Slight odor.

*Stock extrusion temperature

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Ignition Temperature
Not specifically known.
Estimated to be above 700°F (373°C)

Flammable Limits in Air
(% by volume) Lower: NA
Upper: NA

Extinguishing Media
Water. ABC dry powder. Protein type air foams. Carbon dioxide may be ineffective on larger fires due to a lack of cooling capacity which may result in reignition.

Special Fire Fighting Procedure
Positive pressure self-contained breathing apparatus should be used. Personnel not having suitable respiratory protection should leave the area to prevent significant exposure to toxic combustion gases from any source.

Unusual Fire and Explosion Hazards
None known

SECTION V - HEALTH HAZARD DATA

Threshold Limit Value
None Established

Effects of Overexposure
Processing vapors may produce acute health effects in some indiv duals. The effects relate primarily to eye, nose and throat irritation. Individuals with bronchial asthma and other types of chronic obs ructive respiratory diseases may develop bronchspasm if exposure is prolonged.

Emergency and First Aid Procedure
If irritation persists, remove the affected individual from the area. Call a physician. Provide protection before re-entry. If overexposure occurs, leave the area.

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SECTION VI - REACTIVITY DATA

Stability
Stable

Hazardous Polymerization
Will not occur

Hazardous Decomposition Products
CO, CO_2, hydrogen chloride, small amounts of oxides of nitrogen and aromatic and aliphatic hydrocarbons.

Incompatibility (materials to avoid)
In processing equipment, avoid contact of PVC containing polymers with acetal or acetal copolymers or with amine containing materials. At processing conditions, these materials are mutually destructive and involve rapid decomposition.

SECTION VII - SPILL OR LEAK PROCEDURE

Steps to be taken in case material is released or spilled
Vacuum, shovel, or sweep into a closed, labeled container for reuse or disposal. If conditions exist where dust is possible, wear a NIOSH approved respirator. Do not flush into public sewer or water system.

Waste Disposal Method
Landfill or incineration in accordance with federal, state and local regulations. This product is not defined or designated as hazardous by current provisions of the Federal Resource Conservation and Recovery Act (RCRA). 40CFR261.

SECTION VIII - SPECIAL PROTECTION INFORMATION

Ventilation
Efficient exhaust ventilation should always be provided to draw fumes and vapors away from workers to prevent routine inhalation. Ventilation should be adequate to maintain the ambient workplace atmosphere below the limits listed in Section II.

Respiratory Protection
Wear a NIOSH/MSHA approved respirator whenever exposure to fumes or vapors exceed the limits listed in Section II.

Protective Equipment
-Safety glasses recommended.
-Protective gloves.

SECTION IX - SPECIAL PRECAUTIONS

-Use under well-ventilated conditions. During processing or post-processing operations involving heat sufficient to cause mass melting, the sum total of all ingredients present may emit vapors and odors irritating to the respiratory tract, eyes and skin.
-Wash thoroughly after handling. Always wash-up before eating, smoking or using toilet facilities.
-Avoid breathing vapors from processing operations.
-Under abnormal processing conditions (including instances such as equipment malfunction, plug-up, and use of improper equipment or operating conditions), decomposition may occur in an extruder, molding machine, or other equipment, resulting in vapors which will contain the combined fumes and odors from all ingredients. These vapors can result in irritation of the respiratory tract, eyes and skin. Employees involved in removing decomposing material should be provided with a suitable NIOSH approved respirator. Decomposing compound should be removed to a well-ventilated area, preferably outdoors, and thoroughly soaked with water.
-During typical clean-up of equipment after processing, compound may be held at processing temperature for a short period. While this should not result in significant decomposition, it should be understood that the combined vapors from all ingredients may be present. During clean-up operations, exhaust ventilation should be provided.
-Post-processing operations at your workplace or at your customer's workplace involving heat sufficient to result in polymer breakdown emitting smoke and fumes should always be conducted in such a manner to avoid inhalation of fumes. Local exhaust ventilation should be provided to prevent significant employee exposure.

SECTION X - TRANSPORTATION

For domestic transportation purposes, this product is not defined or designated as a hazardous material by the U.S. Department of Transportation under Title 49 of the Code of Federal Regulations, 1980 Edition.

USER'S RESPONSIBILITY

A bulletin such as this cannot be expected to cover all possible individual situations. As the user has the responsibility to provide a safe workplace, all aspects of an individual operation should be examined to determine if, or where, precautions, in addition to those described herein, are required. Any health hazard and safety information contained herein should be passed on to your customers or employees, as the case may be. BFGoodrich must rely on the user to utilize the information we have supplied to develop work practice guidelines and employee instructional programs for the individual operation.

DISCLAIMER OF LIABILITY

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this material. Information contained herein is believed to be true and accurate but all statements or suggestions are made without warranty, express or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all applicable federal, state and local laws and regulations remains the responsibility of the user.

APPENDIX A - BUTADIENE

Butadiene is a cancer suspect agent. The Exxon Corporation has submitted a notice of "Substantial Risk" (Toxic Substance Control Act, Section 8(e)) to the U.S. Environmental Protection Agency. This submission is based on recent findings in a long-term inhalation study with 1,3-butadiene gas conducted by Hazelton Laboratories Europe Limited, Harrogate, U.K. at the request of the International Institute of Synthetic Rubber Producers.

The experiment involved groups of male and female Sprague-Dawley rats which were exposed 6 hours/day, 5 days/week for more than two years to atmospheric concentrations of 0, 1000* and 8000 ppm butadiene. The first results of this study indicate an association between exposure to butadiene and increased tumor incidence in rats.

* Current ACGIH and OSHA exposure limit (TLV).

APPENDIX B - VINYL CHLORIDE

Workplace exposure to vinyl chloride monomer, a carcinogen, is regulated by OSHA 1910.1017 (CFR Title 29). Current regulations require all facilities where PVC is processed (including blends of PVC with other polymers) shall be monitored to determine concentrations of ambient vinyl chloride monomer in the workplace atmosphere. These regulations require that no employee may be exposed to vinyl chloride monomer concentrations greater than 1.0 ppm (part per million by volume) averaged over any eight hour period or 5.0 ppm averaged over any period not exceeding 15 minutes. The "action level" is 0.5 ppm averaged over any eight hour work day.

BFGoodrich has implemented continuing technical efforts to reduce the level of vinyl chloride monomer in the work atmosphere, the environment and in PVC. Extensive product and process improvements have resulted in extremely low levels of residual vinyl chloride monomer. With current PVC products, in combination with efficient ventilation and work practice programs, it should be possible for a typical processing plant not to have to regulate the area. Compliance with OSHA regulations require that a program of initial monitoring be implemented (See OSHA 1910.1017). BFGoodrich recommends that periodic testing be conducted thereafter.

APPENDIX C - ACRYLONITRILE

Acrylonitrile is a cancer suspect agent. Workplace exposure to acrylonitrile is regulated by OSHA 1910.1045 (CFR Title 29). One provision of the OSHA standard requires labeling of all materials containing acrylonitrile, with certain exceptions, unless the employer can establish that the product is incapable of releasing acrylonitrile in an airborne concentration above 1 ppm under expected conditions of processing, use and handling which will cause the greatest possible release.

We have generated objective data by simulating manufacturing conditions that indicate that products such as PVC/nitrile blends are incapable of releasing acrylonitrile resulting in airborne concentrations above 1 ppm under their normally expected conditions of handling, processing and use. This simulation was designed to exaggerate conditions of processing, use and handling by our customers. This included open mill mixing of polymer at elevated temperatures. Based on this evaluation, the maximum acrylonitrile level to which a mill operator would be exposed was evaluated to be less than 0.5 ppm.

Based on the above, we believe that Geon® 8720 PVC compound does not require warning labels. Users should be exempt from the regulation where good manufacturing practices such as adequate ventilation are employed. Purchasers should similarly verify that their operations are in compliance with the standard. Customers should not claim exemption from any of the provisions of the standard by use of BFGoodrich Chemical Group data alone, but should do sufficient in-plant testing of acrylonitrile levels to assure compliance of their operations.