

RECEIVED OCT 6 1993

BLACKWELL SANDERS MATHENY WEARY & LOMBARDI

TELECOPIER
(816) 274-6914
P. O. BOX 419777
KANSAS CITY, MO 64141-6777

TWO PERSHING SQUARE
2300 MAIN STREET-SUITE 1100
KANSAS CITY, MISSOURI 64108

40 CORPORATE WOODS, SUITE 1200
9401 INDIAN CREEK PARKWAY
OVERLAND PARK, KANSAS 66210
(913) 345-8400

DIAL DIRECT (816) 274-
6883

(816) 274-6800

September 30, 1993

Doug F. Elders
Environmental Engineer
Toxic Substances Control Section
United States Environmental
Protection Agency
Region VII
727 Minnesota Avenue
Kansas City, Kansas 66101

Re: Status of PVC Resin Under EPCRA
Our File No.: 7875-63
EPCRA Docket No. VII-92-T-875-E

Dear Mr. Elders:

As you know, we represent Wolverine Technologies (Wolverine) and its parent corporation, Certainteed. Please accept this letter as Wolverine's formal response to your letters of July 30, 1992 and August 18, 1993. We apologize for the delay in responding to your August 18, 1993 letter, but as I explained in our recent phone conversation the sudden death of Ken Everheart came as a shock to all of us.

On June 24, 1992 Phil Calabrese conducted an EPA inspection at the Grinnell, Iowa Wolverine facility under the auspices of the Emergency Planning and Community Right To Know Act (EPCRA), 42 U.S.C. §§ 11001 et seq. EPA then sent a letter to the Wolverine plant manager on July 30, 1992 discussing the outcome of the EPCRA inspection. EPA's letter noted that Wolverine had cooperated with the appropriate emergency planning authorities in an effort to comply with Sections 311 and 312 of EPCRA, but questioned whether Geon Resin 27 polyvinyl chloride (pvc) use was regulated under EPCRA. Wolverine responded by explaining that the Geon material was almost identical to a pvc resin made by Certainteed, and therefore Certainteed was familiar enough with the chemical composition of pvc resin to know it was not regulated under EPCRA.

kc-108622.1

CTL031807

*Copy of entire
document to
James Reynolds*

BLACKWELL SANDERS MATHENY WEARY & LOMBARDI

Doug F. Elders
September 30, 1993
Page 2

The July 30, 1992 letter outlined EPA's concerns that use of the pvc resin in the Grinnell extrusion plant could result in releases of a hazardous chemical. "The MSDS contains information to the effect that the product can emit hazardous fumes and vapors when processed at elevated temperatures. If your company processes polyvinyl chloride in such a manner as to create hazardous emissions, then you would be required to maintain MSDSs pursuant to OSHA, thereby requiring that you notify state and local officials in accordance with EPCRA §§ 311 and 312." Id. (emphasis added)

Wolverine's extrusion process transforms small pellets, or granules, of pvc plastic into vinyl siding for houses and parts for vinyl windows. Apparently the inspector was concerned that the heat used in the extrusion process could cause releases of vinyl chloride from the pvc. Wolverine is the first to admit that the flammable gas vinyl chloride monomer (Chemical Abstract Service Registry No. 75-01-4) is a "hazardous chemical" under both the OSH Act and EPCRA. Vinyl chloride monomer is used to produce pvc resin through a process known as polymerization. However, the polymerization process is one way reaction. In other words, the transformation from vinyl chloride gas to solid pvc is so complete that the heat subsequently applied to the pvc during extrusion does not result in releases of vinyl chloride that would classify the pvc as a hazardous chemical.

The Geon MSDS confirms the accuracy of Wolverine's position. It explicitly states that "the combustion products of Geon resins . . . do not include phosgene, acrolein, or vinyl chloride" (Exhibit A, at 3-4).

The Administrative Record

We have never seen correspondence from OSHA or the Iowa Division of Labor concluding that the pvc used at Grinnell is an OSHA hazardous chemical. The only documentation we have seen on this subject is an April 27, 1993 letter from Charles Hooper of the Iowa Division of Labor to OSHA Region VII indicating that "a written response is needed" concerning the accuracy of a 1986 letter in the OSHA computer database on the status of pvc resin. We understand from your letter of August 18, 1993, however, that you believe that either the state or federal OSHA agency has

BLACKWELL SANDERS MATHENY WEARY & LOMBARDI

Doug F. Elders
September 30, 1993
Page 3

d termed that the pvc used at Grinnell is an OSHA "hazardous chemical".

To be honest, we continue to believe that no agency has actually made a determination as to whether this material is a hazardous chemical under OSHA. The only correspondence we have seen is the letter from Charles Hooper. Wolverine appreciates the difficult position EPA is in because it must rely, to a certain degree, on determinations from other agencies. In this case Wolverine believes there has been a tendency by the other agencies to "pass the buck" on an OSHA issue to EPA. Nonetheless, we do need to explicitly state our position that the administrative record does not contain a determination of the status of this material by either the federal or state OSHA agencies.

By writing this letter we hope to clarify the status of this material under EPCRA, explain why we do not believe that pvc as opposed to vinyl chloride is regulated as a hazardous chemical under either EPCRA or the OSH Act, and avoid the need for an administrative hearing. We are also willing to follow up this letter with a face to face meeting. If EPA remains convinced that Wolverine is in violation of EPCRA after reading this letter please accept this as Wolverine's request for an administrative hearing.

The Interrelationship Between EPCRA and The OSH Act

The requirements of 42 U.S.C. § 11021 and 11022 (EPCRA § § 311 and 312) apply to the owners and operators of facilities where "hazardous chemicals" are used. 42 U.S.C. § 11021(e) defines the term "hazardous chemical". According to the statute:

"[T]he term 'hazardous chemical' has the meaning given such term by Section 1910.1200(c) of Title 29 of the Code of the Federal Regulations except that such term does not include the following: . . .
(2) Any substance present as a solid in any manufactured item to the extent exposure to the substances does not occur under normal conditions of use.

BLACKWELL SANDERS MATHENY WEARY & LOMBARDI

Doug F. Elders
September 30, 1993
Page 4

42 U.S.C. § 11021(e) (emphasis added).

It is important to understand that EPCRA narrows the universe of substances which would otherwise be OSHA "hazardous chemicals". The language "except that" in 42 U.S.C. § 11021(e) begins a series of statutory exceptions which limit the number of substances falling within the definition of "hazardous chemical". Wolverine believes that Geon PVC resin used at the Grinnell, Iowa facility is not a "hazardous chemical" under EPCRA, even if one assumes for purposes of argument that it is a hazardous chemical under OSHA, because it fits within the exception for substances present as a solid in manufactured items where exposure to the substance does not occur under normal conditions of use.

Wolverine disagrees with that portion of your correspondence implying that if either the state or federal OSHA agencies makes a determination that a substance is an OSHA hazardous chemical, that chemical is automatically subject to the requirements of EPCRA. To properly classify this material under EPCRA, EPA must use a two step process. First, if a material is not a "hazardous chemical" under OSHA, then it cannot be a "hazardous chemical" under EPCRA, and no enforcement is warranted. Even if a chemical is an OSHA "hazardous chemical", EPA must still make a determination as to whether the material qualifies for any of the statutory exceptions of 42 U.S.C. § 11021(e). If the material does qualify for any of the exceptions it is not a "hazardous chemical" for purposes of EPCRA regardless of its classification under OSHA.

Even under a pure OSHA analysis, the Geon pvc resin is not a hazardous chemical. Wolverine finds support for this position in the actions of both the state and federal OSH agencies. At the state level, the Iowa Division of Labor has conducted several OSHA inspections of the Grinnell facility. Wolverine has never been cited in any of these inspections for failing to treat pvc resin as a hazardous chemical. A copy of an Iowa Division of Labor letter from 1989 confirming that a recent OSHA inspection did not identify any areas of noncompliance is attached as Exhibit B.

At the federal level OSHA has promulgated a vinyl chlorid standard which specifically addresses workplace exposure to vinyl chloride. Found at 29 C.F.R. § 1910.1017, this standard draws an

BLACKWELL SANDERS MATHENY WEARY & LOMBARDI

Doug F. Elders
September 30, 1993
Page 5

important distinction between fabricated products made of polyvinyl chloride and vinyl chloride. As OSHA explains:

Fabricated product means a product made wholly or partly from polyvinyl chloride, and which does not require further processing at temperatures and for times, sufficient to cause a mass melting of the polyvinyl chloride resulting in the release of vinyl chloride.

29 C.F.R. §1910.1017(b)(6).

Wolverine believes that the Geon pvc resin is a fabricated product exempt from the vinyl chloride standard under OSHA's interpretation of the meaning of the fabricated product exception. OSHA has indicated several times that it defines the term "release", as used in the fabricated product exception, to mean a release of vinyl chloride which results in workplace exposure above the action limit of 0.5 parts per million. Attached as Exhibit C please find a series of letters sent by OSHA in 1975 to various pvc producers and consumers outlining this interpretation of the term release. OSHA confirmed the continuing validity of their interpretation of the term release in Secretary of Labor v. Hooker Chemical Co., OSHRC, Docket No. 78-4862 (March 31, 1981).

We have previously quoted from the Geon MSDS which explains that vinyl chloride is not released as a result of heating pvc. In addition, after the issue at Grinnell first cropped up we approached the manufacturer of the Geon resin for additional information. As you can see (Exhibit D), the pvc manufacturer has unequivocally stated that :

In the Geon Company's view, Iowa has mis-interpreted or mis-construed our MSDS statement. Over fifty years of experience at Geon with extrusion of properly stabilized PVC compounds as well as work done by outside testing laboratories and Universities in extruding PVC has uniformly shown that these materials do not degrade or decompose at the temperatures associated with extrusion to an extent that would cause them to fall within the purview of

BLACKWELL SANDERS MATHENY WEARY & LOMBARDI

Doug F. Elders
September 30, 1993
Page 6

the term 'Hazardous Material' as OSHA employs that term. (Exhibit D, at 1).

Wolverine has performed exposure monitoring for its workers at the Grinnell facility. Enclosed as Exhibit E please find test results showing that even the highest recorded concentrations of vinyl chloride at the Grinnell facility were less than half of the 0.5 ppm action limit.

The April 30, 1986 Susser Letter

In his correspondence with OSHA Region VII, Charles Hooper of the Iowa Division of Labor asked OSHA whether a 1986 letter from OSHA to Peter Susser, a lawyer for the Vinyl Institute, still accurately stated OSHA's position on the hazards posed by pvc. The 1986 letter was premised on the understanding that research had uncovered a carcinogenic risk associated with pvc, as opposed to vinyl chloride which has been identified as a carcinogen for some time. The 1986 letter no longer accurately reflects the available scientific information concerning the carcinogenic potential of pvc.

Attached as Exhibit F please find a letter from the Department of Health and Human Services dated June 3, 1987 indicating that "we have changed our listings in the Registry of Toxic Effects of Chemical Substances (RTECS) to conform with IARC criteria". As you can see, the RTECS listing for polyvinyl chloride no longer labels it as a suspect or possible carcinogen. Since the 1986 letter from OSHA was based on the belief that pvc resin had been identified as a suspect carcinogen, the 1986 letter is no longer an accurate statement of the applicability of the OSHA vinyl chloride standard to pvc.

In the process of preparing this response we contacted representatives of the Vinyl Institute. They advised us that the Institute does not believe that use of pvc resin in an extrusion process is use of an OSHA hazardous chemical. If EPA continues to pursue enforcement of this matter we anticipate that the Institute will appear and argue on behalf of Wolverine. This case carries heavy implications for the vinyl industry as a whole because pvc is such a common material.

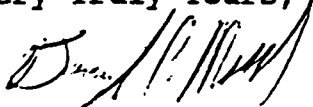
BLACKWELL SANDERS MATHENY WEARY & LOMBARDI

Doug F. Elders
September 30, 1993
Page 7

Used in everything from sneakers to siding, pvc is the second most widely used plastic in the United States. Pvc is even approved for use as a food packaging material. Obviously the Food and Drug Administration would not have approved this material for use in contact with food if it was, as EPA now suggests, hazardous.

We urge EPA to reconsider its position. Vinyl chloride and pvc are completely different types of compounds. Wolverine does not produce or use the flammable gas vinyl chloride at its Grinnell facility. Instead, Wolverine extrudes the solid plastic material pvc which bears an entirely different Chemical Abstract Services Registry Number(9002-86-2) due to its different chemical structure. EPA needs to recognize the fundamental differences between pvc and its 'black sheep' cousin vinyl chloride. The pvc Wolverine extrudes at Grinnell is not a hazardous chemical.

Very Truly Yours,



Douglas P. McLeod

cc: Sherry Carr, Esq.
John Oleson

A

CTL031814



MATERIAL SAFETY DATA SHEET

Geon® Resin 27

Product No.: 00027 000 0000

Recipe No.: 017

Issued: June 1993

Supersedes: New Issue

Written by: M. Hross

SECTION I

The Geon Company
6100 Oak Tree Blvd.
Cleveland, Ohio 44131

Telephone No.: 1-(800) 438-4366

Transportation Emergency No.:

CHEMTREC: 1-(800) 424-9300

Medical Emergency No.:

POISON CENTER: (216) 379-8562

Geon Canada Inc.
8800 Thorold Line Road
P.O. Box 1026
Niagara Falls, Ontario L2E 6V9

Telephone No.: (416) 357-3131

Chemical Family: Ethene, chloro-, homopolymer

Chemical Name/Synonyms: Poly(vinyl chloride), PVC, vinyl

Trade Mark: Geon® Vinyl

Formula: Homopolymer resin $(CH_2CHCl)_n$

C.A.S. Registry No.: Homopolymer resin 9002-86-2

TSCA Inventory Status: All ingredients comply with the USEPA's TSCA regulations

Canadian Domestic Substances List Status: All ingredients have been nominated or are eligible for inclusion

Workplace Hazardous Materials Information System (WHMIS) Classification: Not Controlled

Product Use: Various Applications

SECTION II - Hazardous Ingredients

Hazard Summary Statement: CAUTION! Processing fumes may cause irritation of the eyes and respiratory tract. Use with adequate ventilation. Avoid breathing process emissions. Dust can have flammable potential. Read entire Material Safety Data Sheet (MSDS).

CTL031815

<u>Material</u>	<u>C.A.S. Number</u>	<u>Amount in Product</u>	<u>ACGIH TLV-TWA</u>	<u>OSHA PEL-TWA</u>
Vinyl Chloride Monomer ^{1,2,3,4,5,6}	75-01-4	<8.5 ppm	5 ppm	1 ppm (5 ppm TWA for any 15 minute period)

Vinyl Chloride Monomer LD₅₀ (rat, inhalation) - 18 pph/15M
Vinyl Chloride Monomer LC₅₀ - N.E.

N.A. - Not Applicable

N.E. - Not Established

Vinyl chloride monomer is shown as an OSHA cancer suspect agent (29 CFR 1910.1017), an American Conference of Governmental Industrial Hygienists (ACGIH) confirmed human carcinogen, and a National Toxicology Program (NTP) and an International Agency for Research on Cancer (IARC) human carcinogen.

Legislative Footnotes

- ¹ Ingredient listed on SARA Section 313 List of Toxic Chemicals
- ² Ingredient listed on the *Pennsylvania Hazardous Substances List*
- ³ Ingredient listed on the California listing of *Chemicals Known to the State to Cause Cancer or Reproductive Toxicity*
- ⁴ Ingredient listed on the *Massachusetts Substance List*
- ⁵ *Workplace Hazardous Materials Information System* ingredient found on the Ingredient Disclosure List - Canada
- ⁶ Ingredient listed on the *New Jersey Right to Know Hazardous Substance List*

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 (ACGIH).

OSHA PEL -- OSHA Permissible Exposure Limit, 8-hour TWA. 29 CFR 1910.1000 1989.

SECTION III - Physical Data

Appearance: White, free-flowing powder	Specific Gravity: 1.40 ± 0.02
Odor: Slight characteristic	Melting Point: N.E.
Percent Volatiles: N.E.	Glass Transition Temperature: N.A.
Solubility in Water: N.E.	Bulk Density: N.E.
Physical State: Solid	

SECTION IV - Fire and Explosion Hazard Data

Flash Point: 736°F (391°C) ASTM D1929

Flammable Limits in Air: N.E.

Note: *Flash Point* - The lowest initial temperature of air passing around the specimen at which sufficient combustible gas is evolved to be ignited by a small external pilot flame.

Extinguishing Media: Water is most effective. ABC dry chemical, AFFF and protein type air foams are also effective. The product is an ordinary combustible. (Carbon dioxide is not generally recommended for use on Class A fires as a lack of cooling capacity may result in reignition.)

Special Firefighting Procedures: Firefighters should utilize a self-contained breathing apparatus (SCBA) in positive-pressure mode. In enclosed or poorly ventilated areas, wear an SCBA during cleanup immediately after a fire as well as during the attack phase of firefighting operations.

Unusual Fire Hazards: Geon® resins burn with difficulty because a substantial amount of energy is required to break down the polymer into smaller fragments that will sustain combustion in the gas phase, principally as a consequence of the action of the halogen content of the material. Consequently, Geon® resins are difficult to ignite. Fires will tend to extinguish naturally in the absence of a substantial external source of heat or flame. Hydrogen chloride is generated during combustion and acts as a flame quencher in the vapor phase. Geon® resins will release less heat than many other combustible materials. Precautions should be taken similar to those for any other combustible materials, e.g., wood or other plastics.

As previously mentioned, hydrogen chloride is generated upon combustion of this material. When dissolved in water, hydrogen chloride becomes an acid and can have a corrosive effect upon many metals. Since this corrosion can be a slow process which will take place long after initial exposure, prompt cleaning of surfaces with water-based detergents is indicated.

The smoke generated when Geon® poly(vinyl chloride) resins burn is within the narrow limits of toxicity of the smoke from all commonly used materials. The primary toxic combustion products are carbon monoxide and hydrogen chloride. Carbon monoxide is an asphyxiant generated by all natural and synthetic organic materials from incomplete combustion and is the principal toxicant in fire atmospheres. Hydrogen chloride is an irritant, which has a limited lifetime in any fire atmosphere. The doses of carbon monoxide and hydrogen chloride needed to cause lethality are very similar. The combustion products of Geon® resins include many other compounds such as carbon dioxide, from complete combustion, and water, but do not in-

clude phosgene, acrolein or vinyl chloride.

Explosive Characteristics: Geon® resin dust has a very low tendency to explode. The minimum ignition energy for explosion of Geon® resin dust is very much higher than that of natural materials such as corn starch and flour and also exceeds those of other plastic materials. However, as with any powder materials, care should be taken in addressing ignition sources in working and handling areas.

SECTION V - Reactivity

Stability: Stable

Hazardous Polymerization: Will not occur.

Hazardous Decomposition Products: Hydrogen chloride, carbon monoxide, carbon dioxide and small amounts of benzene and aromatic and aliphatic hydrocarbons.

CAUTION! Prolonged heating (approximately 30 minutes or more) of the product above 200°C (392°F) or short term heating at 250°C (482°F) may result in rapid evolution of hydrogen chloride.

Incompatibility (Materials to Avoid): Avoid contact with strong oxidizers. Also, avoid contact with acetal or acetal copolymers and with amine containing materials during processing. At processing conditions, these materials are mutually destructive and involve rapid degradation. Thoroughly purge and mechanically clean processing equipment to avoid even trace quantities of these materials from coming in contact with each other. Prevent cross contamination of feedstocks.

SECTION VI - Health Hazard Data

Threshold Limit Value: Not Established

Primary Routes of Exposure: Inhalation of powder or process emissions

Effects of Overexposure:

Acute: No adverse health effects are anticipated from the product at ambient temperature. However, at process temperatures, the product can emit fumes and vapors which may cause irritation of the eyes and respiratory tract. Any effects will depend upon processing technique and temperature, volume processed and the effectiveness of exhaust ventilation provided for the process. Effects of chronic exposure to off-gases at processing temperatures have not been fully evaluated.

Chronic: Vinyl resin has little effect on the lungs and is not known to cause any disease when

dust exposure is minimized. Routine inhalation of dust of any kind should be avoided. Exercise care when dumping bags, sweeping, mixing or doing other tasks which can create dust.

Hazardous ingredient specific medical data (if ingredient found in "pure" form):

Vinyl chloride monomer in high concentrations can cause eye, nose and throat irritation, dizziness, euphoria, drowsiness, incoordination, nausea, headache, blurred vision, disorientation, persistent irregular heart beat, unconsciousness and death. Direct contact with the liquid causes freeze burns of the skin, eyes and mucous membranes with possible permanent damage. Repeated exposure causes angiosarcoma of the liver, a rare form of liver cancer. Repeated exposure to high concentrations can cause degeneration of the tips of the finger bones. Transplacental carcinogenicity has been observed in some long term studies with animals. Other organ system effects also have been observed in animal studies but have not been confirmed in humans. Vinyl chloride is an OSHA cancer suspect agent (29 CFR 1910.1017), an ACGIH confirmed human carcinogen and an NTP and IARC human carcinogen.

Medical Conditions Aggravated by Exposure: Individuals with bronchial asthma and other types of chronic obstructive respiratory diseases may develop bronchospasm if exposure to process emissions is prolonged.

Emergency and First Aid Procedures:

Inhalation (of process emissions): Remove affected individual to fresh air. Contact a physician.

Eye Contact: Flush eyes with water for at least 15 minutes while lifting upper and lower eyelids. Seek medical attention if irritation persists.

Skin Contact: Not an anticipated hazard, however, good personal hygiene practices are always recommended for material handling.

Ingestion: Not an anticipated hazard.

SECTION VII - Spill and Leak Procedure

Steps to be taken in case material is released or spilled: Vacuum or sweep material into a clean, properly labeled container for reuse or disposal.

Waste disposal method: Dispose of waste in accordance with all federal, state and local regulations.

TCLP: This product or others of similar composition, in the as-shipped condition, have been tested and found to be not hazardous using the USEPA's Toxicity Characteristic Leaching Procedure (TCLP - 40 CFR 261, Appendix II). Any physical or chemical modification of this product may change the TCLP test results.

SECTION VIII - Special Protection Information

Ventilation: Effective exhaust ventilation should always be provided to draw fumes or vapors away from workers to prevent routine inhalation. Ventilation should be adequate to maintain the ambient workplace atmosphere below the legislated levels listed in Section II. Compounding, hot melt processing (e.g., extruding and molding), cutting or sawing, machining, regrounding, thermoforming, heat welding and other processing or post-processing operations involving heat sufficient to result in polymer break down should be examined to insure adequate ventilation.

Respiratory Protection: Wear a NIOSH/MSHA-approved respirator specific for chemicals listed in Section II and VI, as applicable, when concentrations exceed those limits listed. Comply with OSHA 1910.134 (29 CFR). Where large amounts of dust may occur, wear a NIOSH/MSHA-approved respirator for nuisance dust.

Protective Equipment: Safety glasses or chemical goggles. Wear protective gloves when handling resin bags or hot material during processing.

SECTION IX - Special Precautions

Material Handling: As with any product, should dusting occur from material handling, sources of ignition, such as static discharge, should be addressed by the user to prevent the ignition and sudden release of energy from suspended, finely divided particulates. If dusting occurs, utilize a NIOSH/MSHA-approved respirator for nuisance dust. Remove product from walkways and floors to prevent slippery footing.

Normal Melt Processing: Virtually all thermoplastic materials will emit fumes and/or vapors when heated to processing temperatures. The concentration and composition of these vapors will depend upon variables such as the specific compound formulation and processing method and temperature. Always use the product under well-ventilated conditions and avoid breathing process vapors. For personal hygiene, wash thoroughly after handling resin, especially before eating, smoking or using toilet facilities. Do not store or consume food in processing areas. Do not use processing equipment to heat food.

Cleanup: Cleanup following normal melt processing should be performed under well-ventilated conditions. Compound based upon vinyl resin may be held at process temperatures for a short time without significant thermal degradation. However, it should be recognized that exposure to either elevated temperature or excessive heat history (time) will result in decomposition. (As a general rule, degradation begins to occur after about one hour at 177°C (350°F), about ten minutes at 204°C (400°F) and within five minutes at 232°C (450°F). Equipment should not be shut down for extended time periods with the product in it, or decomposition and possible corrosion of unprotected metal may result. If dies and screws are not to be cleaned manually, then compound should be purged from processing equipment prior to shutdown using special vinyl purge compound or a compatible thermoplastic such as general purpose ABS (do not use flame-retarded or halogen-containing grades for this purpose).

Storage: Sprinklered warehouse areas are recommended. The product by itself will not support

combustion, however, materials such as wooden pallets, paper bags, cardboard boxes and other combustibles can provide sufficient fuel to cause the product to burn.

Housekeeping: As with handling of all powdered materials, accumulations of the product should be removed from settling areas such as rafters, roofs, building columns and ductwork to eliminate any secondary potential dust explosion or fire hazards.

SECTION X - Hazard Codes

NFPA 704 (1980)

(National Fire Protection Association)

Health: 2
Flammability: 1
Reactivity: 0
Special:

Key: 0= Insignificant

1 = Slight

2 = Moderate

3 = High

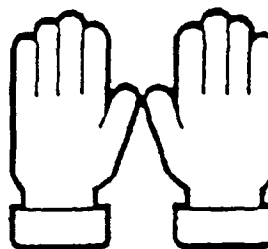
4 = Extreme

B = Gloves

HMIS

(Hazardous Materials Identification System -
National Paint and Coatings Association)

Health: 0
Flammability: 1
Reactivity: 0
Personal Protection: B



User's Responsibility

This bulletin cannot cover all possible situations which the user may experience during processing. Each aspect of the user's operation should be examined to determine if, or where, additional precautions may be necessary. All health and safety information contained within this bulletin should be provided to the user's employees or customers. We must rely upon the user to utilize this information to develop appropriate work practice guidelines and employee instructional programs for his or her operation. Test all end uses thoroughly to assure appropriate material selection.

Disclaimer of Liability

As the conditions or methods of use are beyond the control of the Geon Company, the Geon Company does not assume any responsibility and expressly disclaims any liability for any use of this material. Information contained herein relates only to environmental, health and safety of the product and is not intended to be relied upon as technical specifications for commercial purposes (consult Geon technical bulletins). This document is believed to be true and accurate but all statements or suggestions are made without warranty, expressed or implied, regarding the 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.

PRODUCT LABELING INFORMATION

Product: Geon® Resin 27

The Geon Company
6100 Oak Tree Blvd.
Cleveland, Ohio 44131

Telephone No.: 1-(800) 438-4366

Transportation Emergency No.:

CHEMTREC: 1-(800) 424-9300

Medical Emergency No.:

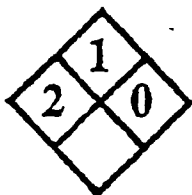
POISON CENTER: (216) 379-8562

Telephone No.: (416) 357-3131

Geon Canada Inc.
8800 Thorold Line Road
P.O. Box 1026
Niagara Falls, Ontario L2E 6V9

READ MATERIAL SAFETY DATA SHEET (MSDS) BEFORE USE

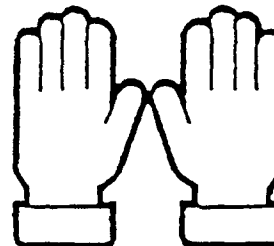
NFPA



HMIS

Health	0
Flammability	1
Reactivity	0
Personal Protection	B

CAUTION! Processing fumes may cause irritation of the eyes and respiratory tract. Use with adequate ventilation. Avoid breathing process emissions.



First Aid:

Inhalation of process emissions: Remove affected individual to fresh air. Contact a physician

Eye contact: Flush eyes with water for at least 15 minutes while lifting upper and lower eyelids. Seek medical attention if irritation persists.

Contains:

Vinyl Chloride Monomer
(CAS No. 75-01-4)

<8.5 ppm

Ingredients List Required by the New Jersey Right-To-Know:

Polyvinyl Vinyl Chloride CAS No. 9002-86-2

CTL031822

Shipping Information

IDENTIFICATION - DOMESTIC TRANSPORTATION

Proper Shipping Name (172.101(c)): N.A.

(Technical Names(s)) (172.203(k)): N.A.

Class/Division (172.101(d)): N.A.

UN/NA# (172.101(e)): N.A.

Haz. Substance (171.8): N.A.

Reportable Quantity: N.A.

Inhalation Hazard (172.2a(b)): N.A.

Packing Group (172.101(f)):

PACKAGING (Part 173)

• Packaging Sections (172.101(g)) - Col. 5(a): N.A.

Col.5(b): N.A.

• General Packaging Sections - General 173.24

Hazard Class: N.A.

DANGEROUS GOODS DETERMINATION (2.1) - INTERNATIONAL TRANSPORT

Proper Shipping Name (Col. B): N.A.

Class/Division (Col. C): N.A.

Subsidiary Risk (Co. D): N.A.

UN/ID# (Col. A): N.A.

U.S. Haz. Substance (US 1): N.A. Other/Inhalation Haz. (US 34): N.A.

Variations (1.8): States (Governments): N.A. Carrier (Table 1.8B): N.A.

PACKAGING

• Max. Qty. Per Pkg.(Cols. H/J) - Passenger: N.A.

Cargo: N.A.

• Packaging Instructions (Cols. G/I) - Passenger: N.A.

Cargo: N.A.

MARKING

A. Proper Shipping Name (172.301(a))

(Technical Name(s))(172.301(c))

B. UN/NA Number (172.301(a))

C. Name and Address (172.306(a))

D. THIS END UP 9(172.312(a))

E. Haz. Substance RQ (Name)(172.324)

- ORM Designation (172.316(a))

- Inhalation Hazard (172.301(a))

DOMESTIC LABELING

1. HMT LABELS (172.400)

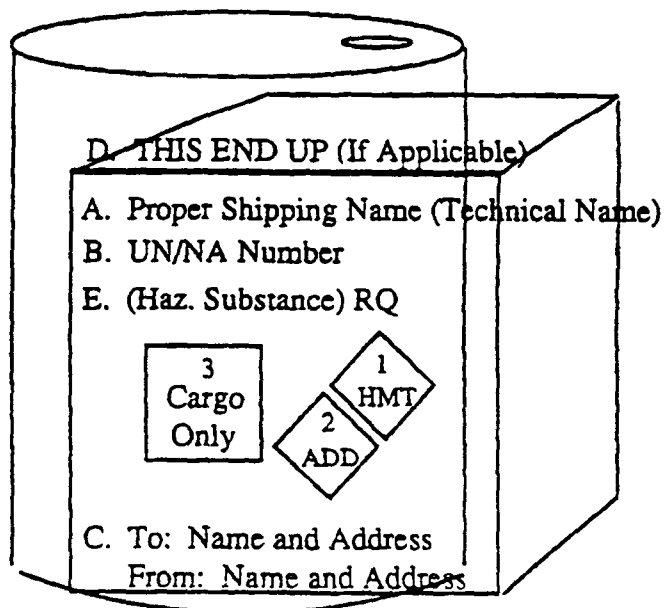
2. Additional Hazard (172.402(a))

INTERNATIONAL LABELING

1. Primary Hazard

2. Subsidiary Risk (If Appropriate)

3. Cargo Aircraft (If Appropriate)





TERRY E. BRANSTAD, GOVERNOR

DEPARTMENT OF EMPLOYMENT SERVICES
DIVISION OF LABORALLEN J. MEIER
COMMISSIONER

April 25, 1989

Mr. Mark Romano
Wolverine Technologies Inc.
P.O. Box 685
Grimmell, IA 50112

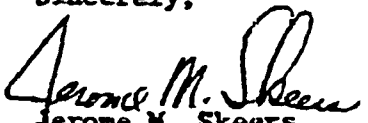
Dear Mr. Romano:

This will confirm our telephone conversation on Monday, April 24, 1989.

Your plant was selected for an OSHA inspection under the provisions of our safety planning guide. That inspection was conducted on January 13, 1989 and no violations were observed at that time.

Thank you for your efforts on behalf of employee safety. If you have any questions, please feel free to call us.

Sincerely,


Jerome M. Skeers
Labor Safety Officer

JMS:kf

cc: Mary L. Bryant, IOSH Administrator
C.F. 9707

CTL031825

C

CTL031826

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration
WASHINGTON, D.C. 20110



DEC 17 1975

RECEIVED

DEC 22 1975

APCI CHEM. DIV.
LAW DEPT.

Mr. Raymond H. Schenck
Attorney
Air Products and Chemicals, Inc.
Five Executive Mall
Swedesford Road
Wayne, Pennsylvania 19087

Dear Mr. Schenck:

This is in response to your letter of June 30, 1975 to Assistant Secretary John H. Stender petitioning for the modification of 29 CFR 1910.1017(b)(6), (formerly 29 CFR 1910.93g(b)(6) recodified May 28, 1975), Exposure to Vinyl Chloride, Occupational Safety and Health Standards.

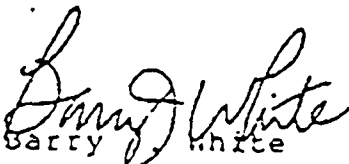
29 CFR 1910.1017(b)(6) defines a fabricated product as being one which is "made wholly or partly from polyvinyl chloride, and which does not require further processing at temperatures, and for times, sufficient to cause mass melting of the polyvinyl chloride resulting in the release of vinyl chloride."

"Release of vinyl chloride" means the release of an amount of vinyl chloride which would likely result in employee exposure at or above the action level without regard to the use of engineering controls. Products which can be classified as fabricated products are exempt from the provisions of the vinyl chloride standard. All other products are subject to the requirements of the standard.

There are no plans presently to formally modify the vinyl chloride standard. Therefore, we hope that the the above clarification of the regulation will satisfy your petition request.

Should you have further questions, please contact me or members of my staff.

Sincerely,


Barry White

Associate Assistant Secretary
For Regional Programs

CTL031827

U. S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration
WASHINGTON, D.C. 20541

DEC 17 1975



Mr. R. ^{N.} Wheeler, Jr.
Vinyl Chloride Resins Manager
Union Carbide Corporation
270 Park Avenue
New York, New York 10017

JAN 02 1975
R N WHEELER JR.

Dear Mr. Wheeler:

This is in response to your joint letter with Mr. John Whittlesey dated June 17, 1975, petitioning for modifications of the Exposure to Vinyl Chloride Standard, 29 CFR 1910.1017 (formerly 1910.93 recodified May 28, 1975).

There are no plans presently to amend the Vinyl Chloride Standard. A revised program directive is contemplated, although we are not certain as to the date it will be available. Please be assured that your comments and suggestions are greatly appreciated and they will be considered fully in the revision of the program directive. In the meantime, the following administrative decisions have been made:

1. 29 CFR 1910.1017(a) and (b)(6) Scope and application (2), (3) and (b) Definitions (6)

The standard defines a fabricated product as being one which is "made wholly or partly from polyvinyl chloride, and which does not require further processing at temperatures, and for times, sufficient to cause mass melting of the polyvinyl chloride resulting in the release of vinyl chloride."

"Release of vinyl chloride" means the release of an amount of vinyl chloride which would likely result in employee exposure at or above the action level without regard to the use of engineering controls. Products which can be classified as fabricated products are exempt from the provisions of the vinyl chloride standard. All other products are subject to the requirements of the standard. If the employer uses or manufactures a product which is not a fabricated product, he must initiate monitoring procedures. If the monitoring reveals that the employees are not exposed to vinyl chloride at or above the action level, the employer's operations will be exempt from the

CTL031828

2.

provisions of the standard. However, if the monitoring reveals exposure at or above the action level, the employer must implement the procedures specified in the standard.

2. 29 CFR 1910.1017(b) Definitions (5).

The petition requests that the definition of "emergency" be revised to include specific examples, such as fire and explosion. We agree that the definition might well be expanded to include examples. Again, this matter will be addressed in a program directive and not as an amendment to the standard.

The definition of a "massive release" as being "greater than 100 parts per million (ppm)" found in the current Program Directive #200-35, will also be addressed in a revised directive. We agree that the 100 ppm should be changed.

3. 29 CFR 1910.1017(d) Monitoring (4) -

The intent of paragraph (d)(4) is that the employer shall be 95% confident that his monitoring result is within 25%, 35% or 50% of the actual value depending on the concentration. Therefore, an employer using a method which has proven vinyl chloride detection accuracy of 25% or less need take only one measurement regardless of the actual vinyl chloride monomer concentration. In concentration ranges where accuracies of 35% or 50% are required, the employer need take only one measurement if the method accuracy is less than the specified accuracy. With methods of unknown accuracy or having errors greater than the specified accuracy requirements, repeated measurements are necessary. In these cases, one may use the coefficient of variation (CV) as a parameter to judge whether or not a sampling procedure is adequate to meet the standard. The CV in percentage units is defined as the standard deviation of the method, times 100, divided by permissible exposure limit. The required CV of the procedure is obtained by dividing the required accuracy by 1.96 (Z value for 95% confidence). Thus, for accuracies of 25%, 35% and 50%, method CV values should be less than 12.6%, 17.5%, and 25.5% respectively.

3.

To repeat, there are no plans presently to amend the standard but your comments on monitoring will be considered in the program directive revision and also in future rulemaking where monitoring is a requirement.

4. 29 CFR 1910.1017(j) Training.

The standard does not specify a level of exposure to trigger training activities. Section 6(b)(7) of the Occupational Safety and Health Act of 1970 provides that employees shall be apprised of the nature of the hazardous substances with which they come in contact.

The evidence we have compiled on vinyl chloride has indicated that it is sufficiently hazardous to warrant training for all personnel who have any possibility of coming in contact with vinyl chloride. There is always the opportunity for accidents to occur and employees should be aware of the possible consequences. There has also been some indication that storage containers may yield high concentrations of vinyl chloride when opened after transporting.

Therefore, it is not likely that the training provisions will be amended. For those operations covered by the standard, training is a requirement.

5. 29 CFR 1910.1017(e), Signs and labels (4)

If there are situations where the blended polyvinyl chloride must be labeled yet contains less than 0.5 ppm residual vinyl chloride monomer, the following wording may be used:

BLENDDED POLYVINYL CHLORIDE (PVC)

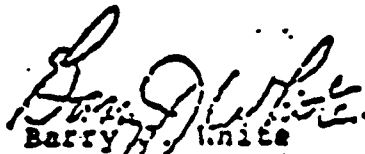
CONTAINS TRACE AMOUNTS (0.5 ppm)

OF VINYL CHLORIDE.

VINYL CHLORIDE IS A CANCER-SUSPECT AGENT.

We hope that the above clarifications will satisfy your petition for modification and amendment of the vinyl chloride standard. As previously stated, there are no plans presently to formally amend the standard. There will be an addendum or modification of the Program Directive #200-35. Should you wish to discuss any matter further do not hesitate to contact me or members of my staff.

Sincerely,



Barry J. White
Associate Assistant Secretary
for Regional Programs

CTL031831

THE **GEON** COMPANY

Technical Center
P.O. Box 122
Mo re & Walker Rds.
Avon Lake, Ohio 44012
216-933-0307
Fax: 216-933-1764

July 6, 1993

Louis M. Maresca
Vice President
Research & Development

RECEIVED

JUL 13 1993

MR. KEN L. EVERHART

Mr. Ken Everhardt
Certainteed Corporation
P.O. Box 290
Williamsport, MD 21795

Subject: Polvvinyl Chloride Resins and Compounds

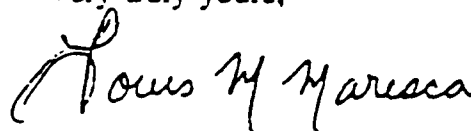
Dear Mr. Everhardt:

You have inquired of The Geon Company whether in the view at Geon, polyvinyl chloride resins and compounds comprise "Hazardous Materials", as the term "Hazardous Materials" finds application in the OSHA regulations. You have indicated that Iowa's state agency charged with enforcement of the OSHA regulations has taken a statement in Geon's MSDS sheets for PVC resin and compounds that PVC can produce decomposition by-products at elevated temperatures, to mean that PVC comprises a "Hazardous Material" requiring reporting under SARA 313.

In the Geon Company's view, Iowa has mis-interpreted or mis-constructed our MSDS statement. Over fifty years of experience at Geon with extrusion of properly stabilized PVC compounds as well as work done by outside testing laboratories and Universities in extruding PVC has uniformly shown that these materials do not degrade or decompose at the temperatures associated with extrusion to an extent that would cause them to fall within the purview of the term "Hazardous Materials" as employed by OSHA. At these "normal" extrusion temperatures, PVC does not evolve fumes of a quantity or of a nature which would make PVC a "Hazardous Material" as OSHA employs that term. Geon included the statement in their MSDS sheet relating to elevated temperatures to address temperatures substantially in excess of those experienced during normal PVC extrusion operations. In other words, the statement Geon places upon its MSDS regarding fume evolution at elevated temperatures refers to the extraordinary situation where PVC (which does not independently support combustion) might get caught up in a fire, or see exposure to a temperature substantially in excess of normal extrusion temperatures for a significant time duration, as well as to emphasize the ordinary good practice of providing appropriate ventilation in the extrusion of any thermoplastic, whether PVC or otherwise.

We here at Geon hope that the foregoing clarifies the concern at Certainteed and at IOWA's OSHA enforcement agency.

Very truly yours,



CTL031833

E

CTL031834

Explanation of Vinyl Chloride Sample Report

Column 1 Plant: This is an internal code to identify and separate each plant's data. Plant 0043 is Grinnell.

Column 2 P/A/E: This is a designation for the type of sample collected. P-personal sample collected on an employee; A-area sample collected in a general work area; E-engineering sample collected to determine contaminant sources, not an occupied work area.

Column 3 - Survey number: in an internal sequential number given to each survey performed. If the survey number contains "PT" in the middle (i.e., 90PT01) it means the samples were taken in-house by the plant. If no PT is in the number the samples were taken by Corporate Industrial Hygienists.

Column 4 - Date of sample

Column 5 - Department within the facility

Column 6 - Location within the facility

Column 7 - Job employee performed during the sample, if it was a personal sample.

Column 8 - Minutes: duration of the sample

Column 9 - Details: the number of individual samples comprising the TWA value

Column 10 TWA: Time weighted average for the minutes listed in column 7. The "<" sign means the sample result was less than detectable. The OSHA PEL for vinyl chloride is 1 ppm.

Column 11 Method: C2 and AR are the same method, Charcoal tube with analysis by OSHA 04 method. This is further discussed on attached method description.

Unfortunately, the information we gathered during the sampling period does not include record of temperature, humidity or residuals in the compound.

CTL031835

**Sampling Method for
Vinyl Chloride Monomer**

The vinyl chloride samples were obtained and analyzed following the OSHA 04 method.

Personal and area samples were obtained on charcoal tubes. Corporate samples were collected DuPont ALPHA I, P4000 and P200 air sampling pumps. Plant samples were taken using Sipin pumps. All pumps were calibrated to approximately 30 cc/min. before and after each sampling day.

The vinyl chloride samples obtained on charcoal tubes by were sent to AIHA accredited laboratories for analysis by gas chromatography. The detection limit as established by the labs is 1.2 micrograms.

The OSHA limit for vinyl chloride as stated in OSHA Safety and health Standards 1910.1017 is 1 ppm (part per million) averaged over an 8-hour period. For short exposures, less than 15 minutes, the permissible exposure is 5 ppm. The VCM action level is 0.5 ppm.

CTL031836

Vinyl Chloride Sample Results

09/27/93

10:08:18

Page 1

Plant	Survey	Date	Department	Location	Job	Minutes	Details	TWA	Method
0043	P 89-04	02/21/89	BATCH/FORMING	BLEND ROOM	OPERATOR	380	1	<0.013	C2
0043	P 89-04	02/20/89	BATCH/FORMING	BLEND ROOM	OPERATOR	382	1	<0.012	C2
0043	P 89-04	02/20/89	BATCH/FORMING	BLEND ROOM	OPERATOR	364	1	<0.010	C2
0043	P 89-04	02/21/89	BATCH/FORMING	BLEND ROOM	OPERATOR	452	1	<0.025	C2
0043	P 89-04	02/20/89	PRODUCTION	EXTRUDER	OPERATOR	415	1	<0.016	C2
0043	P 89-04	02/20/89	PRODUCTION	EXTRUDER	OPERATOR	431	1	<0.014	C2
0043	P 89-04	02/20/89	PRODUCTION	EXTRUDER	OPERATOR	458	1	<0.011	C2
0043	P 89-04	02/22/89	PRODUCTION	EXTRUDER	OPERATOR	480	1	<0.012	C2
0043	P 89-04	02/22/89	PRODUCTION	EXTRUDER	OPERATOR	445	1	<0.010	C2
0043	P 89-04	02/21/89	PRODUCTION	EXTRUDER	OPERATOR	398	1	<0.018	C2
0043	P 89-04	02/20/89	PRODUCTION	EXTRUDER	HELPER	392	1	<0.012	C2
0043	P 89-04	02/22/89	PRODUCTION	EXTRUDER	OPERATOR	463	1	<0.010	C2
0043	P 89-04	02/22/89	PRODUCTION	EXTRUDER	OPERATOR	473	1	<0.014	C2
0043	P 89-04	02/22/89	PRODUCTION	EXTRUDER	HELPER	454	1	<0.008	C2
0043	P 89-04	02/20/89	PRODUCTION	GENERAL	SUPERVISOR	380	1	<0.012	C2
0043	P 89-04	02/20/89	PRODUCTION	GENERAL	LEAD	380	1	<0.013	C2
0043	P 89-04	02/20/89	PRODUCTION	GRINDER	OPERATOR	345	1	<0.014	C2
0043	P 89-04	02/20/89	QUALITY CONTROL	GENERAL	INSPECTOR	412	1	<0.010	C2
Plant totals: Range 0.000425 to 11.425191 Mean 0.283033 Std 1.740117 N=18 Geo mean 0.011652 Geo std 1.290163									

CTL031837

Vinyl Chloride Sample Results

09/21/93

14:20:50

Page 1

Plant	Survey	Date	Department	Location	Job	Minutes	Details	IWA	Method			
0043	P 90-28	12/04/90	PRODUCTION	EXTRUDER	OPERATOR	382	1	<0.011	C2			
0043	P 90-28	12/04/90	PRODUCTION	EXTRUDER	OPERATOR	374	1	<0.010	C2			
0043	P 90-28	12/05/90	PRODUCTION	EXTRUDER	OPERATOR	371	1	0.224	C2			
0043	P 90-28	12/05/90	PRODUCTION	EXTRUDER	OPERATOR	374	1	<0.022	C2			
0043	P 90-28	12/04/90	PRODUCTION	EXTRUDER	OPERATOR	360	1	<0.014	C2			
0043	P 90-28	12/04/90	PRODUCTION	EXTRUDER	OPERATOR	231	1	<0.023	C2			
Plant totals: Range		<u>0.010323</u> to <u>0.224241</u>		Mean	<u>0.038850</u>	Std	<u>0.065697</u>	N=6	Geo mean	<u>0.020250</u>	Geo std	<u>0.895022</u>

CTL031838



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Centers for Disease Control
National Institute for
Occupational Safety & Health
Robert A. Taft Laboratory
4676 Columbia Parkway
Cincinnati OH 45226-15

June 3, 1987

Mr. Peter L. de la Cruz
Law Offices of Keller and Heckman
1150 17th Street, N.W.
Suite 1000
Washington, D.C. 20036

Dear Mr. de la Cruz:

We wrote to IARC in Lyon, as we had indicated, and received a response from Dr. A. Aitio, Officer in Charge, Unit of Carcinogen Identification and Evaluation. A copy of his letter is enclosed.

In response to this letter, we have changed our listings in the Registry of Toxic Effects of Chemical Substances (RTECS) to conform with IARC criteria. In fact, we have reviewed all IARC citations to bring them into conformity with the IARC criteria defined in Supplement 4 and subsequent monographs. We now use the IARC terminology of "Sufficient Evidence," "Limited Evidence," "Inadequate Evidence," and "N Evidence" of carcinogenicity.

In view of the IARC letter, and also applying the criteria, the RTECS record for polyvinyl chloride now carries the following citations:

IARC Cancer Review: Animal Inadequate Evidence
IARC Cancer Review: Human Inadequate Evidence

I regret that this whole process was slow in reaching a resolution, but it did raise an issue of importance for us. Your inquiries helped us to focus on our need for reviewing older citations. The criteria that IARC now uses simplify our task in reporting the conclusions of the IARC working groups more accurately.

Sincerely yours,

Doris V. Sweet
Editor, RTECS
Priorities and Research Analysis Branch
Division of Standards Development
and Technology Transfer

Enclosure

CTL031840