

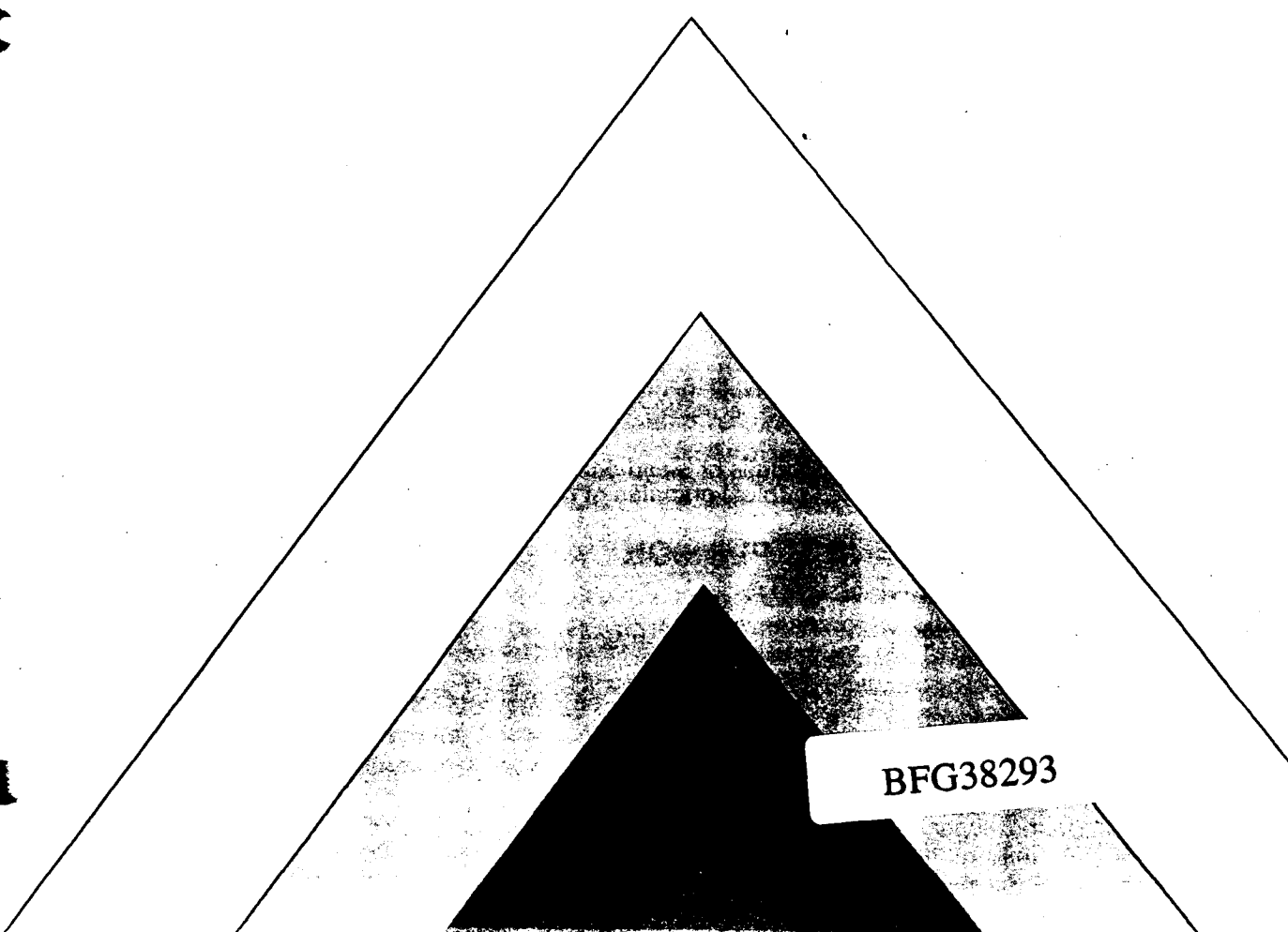
Issue Date:
January, 1981

BF Goodrich

G-62
Supplement

MATERIAL SAFETY DATA SHEET

Geon® Vinyl Resins,
Compounds



BFG38293

The data in this bulletin is applicable to all Geon® vinyl resins — general purpose type, Super EP type, dispersion resins, blending resins, powder coating resins —

and to all grades of rigid, flexible and Geon® cellular vinyl compounds. This bulletin is not applicable to Geon® latexes nor to Geon® CPVC materials.

SECTION I

Manufacturer's Name The BFGoodrich Company, Chemical Group
Address 6100 Oak Tree Boulevard, Cleveland, OH 44131
Telephone Number (216) 447-6000
Trademark Geon® Vinyls
Chemical Name Poly (vinyl chloride), PVC
Formula $(CH_2 CHCl)_n$
Chemical Family Vinyl Chloride Homopolymer (With the following exceptions):
 Geon® 135: Copolymer of vinyl chloride/vinyl acetate
 Geon® 137: Carboxy-modified vinyl chloride polymer
 Geon® 138: Copolymer of vinyl chloride/vinyl ester

SECTION II

HAZARDOUS INGREDIENTS

PVC Resin

- 1) Residual vinyl chloride monomer.

PVC Compound

- 1) Residual vinyl chloride monomer.
- 2) Heavy metal stabilizers.
- 3) Monomeric, polymeric or mixed ester plasticizer in flexible compound.
- 4) Pigments based on lead, chromium, mercadmiums, iron oxides or other organics or inorganics.

For additional information read BFGoodrich Bulletin G-62, Second Edition (Revised)

Section V and Table 1

Section II

Section II

Section II and Table III

NOTE: Vinyl chloride (VCM) is an OSHA regulated material (REFER TO OSHA 1910.1017 FOR COMPLETE DETAILS). Current OSHA regulations require that no employee may be exposed to VCM concentrations greater than 1.0 ppm averaged over any eight hour period or 5.0 ppm averaged over any period not exceeding 15 minutes. All facilities where PVC is processed or fabricated (with heat sufficient to cause mass melting) shall be monitored to determine concentration of ambient VCM in the workplace atmosphere.

Section V

SECTION III

PHYSICAL DATA (Typical data, not specifications)

Specific Gravity ($H_2O = 1.0$).

Resin: 1.40.

Compound: See Product Data Sheet.

Solubility in Water — Slight

Particle Size

Resin: Refer to Bulletin G-62.

Compound: Cubes measuring approximately 3/16-inch per side; or powder of variable particle size due to compounding ingredients.

Table II

Appearance and Odor

Resin: White powder, practically odorless or bland odor.

Compound: Pigmented or unpigmented cubical granules or powder, slight odor.

SECTION IV

FIRE AND EXPLOSION HAZARD DATA

Flash Ignition (ASTM D-1929) 735°F.

Self-Ignition (ASTM D-1929) 850°F.

Section IV

Extinguishing Media

Section IV

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

Special Fire Fighting Procedures

Section IV

Wear self-contained breathing apparatus to prevent inhalation of combustion gases.

Unusual Fire and Explosion Hazard

Section IV

PVC powder compound, especially plasticized powder compounds, may have dust explosion potential due to compounding ingredients. Control or eliminate likely ignition sources. Prevent accumulation of potentially explosive dust concentrations. Ventilate well.

SECTION V**HEALTH AND HAZARD DATA**

Threshold Limit Value — None established.

Effects of Overexposure

Processing vapors may produce acute health effects in some individuals. The effects relate primarily to eye, nose and throat irritation. Individuals with bronchial asthma and other types of chronic obstructive respiratory diseases may develop bronchospasm if exposure is prolonged.

Emergency and First Aid Procedures

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

SECTION VI**REACTIVITY DATA**

Stability — Stable.

Incompatibility (Materials to avoid)

In processing equipment, avoid contact of PVC resin or compound with acetal or acetal copolymers or with amine containing materials. At processing conditions these materials are mutually destructive and involve rapid decomposition.

Hazardous Decomposition Products

CO, CO₂, HCl, and (in small amounts) aromatic and aliphatic hydrocarbons. Geon® 135 will also contribute minor amounts of acetic acid as gas and smoke.

Hazardous Polymerization — Will not occur.

Section VI

Section IV

SECTION VII**SPILL OR LEAK PROCEDURES****Steps to be taken if material is released or spilled**

Sweep, shovel, or vacuum into containers for reuse or disposal.

Waste Disposal Method

Sanitary landfill or incineration in accordance with Federal, state or local regulations. Not hazardous for waste disposal per Federal regulations (40 CFR 261).

Section VII

SECTION VIII**SPECIAL PROTECTION INFORMATION****Respiratory Protection — Dust**

If conditions exist where dust is possible, wear NIOSH approved respirator.

Ventilation

Exhaust ventilation designed to pull vapors away from workers should be installed at all operations capable of creating dust, fumes or vapors.

Other Protection

- 1) Rubber gloves should be worn when cleaning condensate from exhaust hoods and other surfaces to prevent skin contact.
- 2) Safety glasses.

Section VIII

Section IV, Section VIII

Section IX

SECTION IX**SPECIAL PRECAUTIONS**

- 1) Open, handle and use Geon® vinyls under well-ventilated conditions.
- 2) Avoid breathing fumes.
- 3) Do not store or consume food in processing areas. Do not use processing equipment to heat food. Wash hands prior to eating, smoking or using toilet facilities.
- 4) Cool regrind before placing in containers to prevent decomposition.
- 5) Keep PVC resin and compound off the floor to prevent slipping.

Section IV, V

SECTION X**TRANSPORTATION INFORMATION**

For transportation purposes, Geon® vinyl resins and compounds are not defined or designated as a hazardous material by the U.S. Department of Transportation under Title 49 of the Code of Federal Regulations, 1979 edition.

BFG38294

BFGoodrich

Chemical Group

The BFGoodrich Company
Chemical Group

6100 Oak Tree Boulevard
Cleveland, Ohio 44131
216-447-6000

Sales Offices

CLEVELAND AREA
6100 Oak Tree Boulevard
CLEVELAND, OH 44131
216-447-6000

ATLANTA AREA
Suite 535
2700 Cumberland Parkway N.W.
ATLANTA, GA 30339
404-434-7761

BOSTON AREA
385 Elliot Street
NEWTON UPPER FALLS, MA 02164
617-332-2700

CHICAGO AREA
715 Oak Brook Executive Plaza
1301 West 22nd Street
OAK BROOK, IL 60521
312-654-4700

DETROIT AREA
Suite 207
30200 Telegraph Road
BIRMINGHAM, MI 48012
313-357-3939

KANSAS CITY AREA
1000 Blue Ridge Tower
4240 Blue Ridge Boulevard
KANSAS CITY, MO 64133
816-353-6440

LOS ANGELES AREA
Suite 970 Wilshire Centre
3055 Wilshire Boulevard
LOS ANGELES, CA 90010
213-386-7436

PHILADELPHIA AREA
200 Office Center
275 Commerce Drive
FORT WASHINGTON, PA 19034
215-643-6805

CANADA
409 Weber Street, West
KITCHENER, ONT., Canada
519-742-3641

INTERNATIONAL DEPARTMENT
6100 Oak Tree Boulevard
CLEVELAND, OH 44131
Cable Address:
GOODRICHCHEM
Telex: 980427 goodchem idpc

USER'S RESPONSIBILITY

A bulletin such as this cannot be expected to cover all possible individual situations. As the user of Geon® vinyls 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 of Geon® vinyls 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 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 any warranty, express or implied, regarding the accuracy of 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.

The information contained herein is believed to be reliable, but no representations, guarantees or warranties of any kind are made as to its accuracy, suitability for particular applications or the results to be obtained therefrom. The information is based on laboratory work with small-scale equipment and does not necessarily indicate end product performance. Because of variations in methods, conditions and equipment used commercially in processing these materials, no warranties or guarantees are made as to the suitability of the products for the applications disclosed. Full-scale testing and end product performance are the responsibility of the user. BFGoodrich shall not be liable for and the customer assumes all risk and liability of any use or handling of any material beyond BFGoodrich's direct control. THE SELLER MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Nothing contained herein is to be considered as permission, recommendation, nor as an inducement to practice any patented invention without permission of the patent owner.

BFG38295

SECTION X

TRANSPORTATION INFORMATION

For transportation purposes, Geon® vinyl resins and compounds are not defined or designated as hazardous materials by the U.S. Department of Transportation under Title 49 of the Code of Federal Regulations, 1979 edition.

TABLE 1 RESIDUAL VINYL CHLORIDE MONOMER (RVCM) IN MAJOR TYPES OF GEON® RESIN AND COMPOUND

DESCRIPTION	DESIGNATION	INHERENT VISCOSITY ASTM D-1243	CLOSEST CLASSIFICATION ASTM D-1755	TYPE COMPOUND USED IN	AVERAGE AMOUNT OF RVCM (PPM) PRIME GOODS		AVERAGE AMOUNT OF RVCM (PPM) OFF-GRADE RESIN* TAILINGS (B, C & E-GRADES)
					IN RESIN PRIOR TO COMPOUNDING	IN COMPOUND	
Suspension Resins							
Homopolymers							
1. High Molecular Weight	102EP F-5	1.13	GP6-15443	Rigid	≤ 1	< 1	< 50
2. Med. Molecular Weight	30	1.02	GP5-15443	Flexible	≤ 1	< 1	< 50
	103EP F-76	0.92	GP4-16043	Rigid	≤ 1	< 1	< 50
	92	1.00	GP5-15543	Flexible	≤ 1	< 1	< 5
3. Low Molecular Weight	110x334	0.68	GP1-16243	Rigid	≤ 3	< 3	< 5
Emulsion Resins							
Dispersion	121, 178	1.20	Not Applicable	None	≤ 5	Not Applicable	< 20
GROUND RESIN (B-GRADE ONLY)							
Mass Resins							
1. Med. Molecular Weight	83	0.92	GP4-16043	Rigid	< 10	< 5	< 50
	88	0.96	GP5-15443	Flexible	< 10	< 5	< 50
2. Low Molecular Weight	85	0.70	GP2-16243	Rigid	< 20	< 10	< 50
	221	0.76	GP2-46043	None	< 10	Not Applicable	< 50
	141	0.84	GP3-46343	None	< 10	Not Applicable	< 50
	142	0.76	GP4-46243	None	< 10	Not Applicable	< 50

NOTE: < means "less than."

≤ means "equal to or less than."

*Downgraded resin (B & C grade) Same as prime.

TABLE II

Particle Size of Geon® vinyl resins:

100% Through 40 Mesh Screen	99% Through 325 Mesh Screen	100% Through 30 Mesh Screen
30	121	92
83	123	99
85	124	
86	125	
88	135	
80x24	137	
80x25	138	
80x26	171	
212	178	214
102EP	179	213
103EP F-76	184	
110x334	186	
110x352		
141		
142		
221		

TABLE III CARCINOGENIC COMPOUNDS

None of the following substances are used in the manufacture of Geon® vinyls nor are they anticipated by-products in our production process. Although the following materials do not represent any official governmental list nor all possible carcinogenic compounds, they do represent specific substances our customers have typically inquired about.

Some of these materials are ubiquitous and trace quantities may be found in the environment or as impurities in ingredients used in compounding.

	OSHA 1910.1001
Asbestos	.1002
Coal tar pitch volatiles	.1003
4-Nitrobiphenyl	.1004
alpha-Naphthylamine	.1005
4, 4' — Methylene (bis) 2-chloroaniline	.1006
Methyl Chloromethyl Ether	.1007
3, 3' — Dichlorobenzidine (and its salts)	.1008
bis-chloromethyl ether	.1009
beta — Naphthylamine	.1010
Benzidine	.1011
4 — Aminodiphenyl	.1012
Ethyleneimine	.1013
beta-Propiolactone	.1014
2-Acetylaminofluorene	.1015
4 — Dimethylaminoazobenzene	.1016
N-Nitrosodimethylamine	.1028
Benzene	
Polybrominated biphenyls	
Polychlorinated biphenyls*	EPA (40 CFR Part 761)

*Polychlorinated biphenyls (PCB) may be present as impurities in certain phthalocyanine and diarylide pigments. Our suppliers have notified us that the pigments we purchase comply with the 50 ppm maximum allowable limit found in the EPA final rule to be published under Title 41 of the Code of Federal Regulations, Part 761.

BFG38296

BFGoodrich

Chemical Group

The BFGoodrich Company
Chemical Group

6100 Oak Tree Boulevard
Cleveland, Ohio 44131
216-447-6000

Sales Offices

CLEVELAND AREA
6100 Oak Tree Boulevard
CLEVELAND, OH 44131
216-447-6000

ATLANTA AREA
Suite 535
2700 Cumberland Parkway N.W.
ATLANTA, GA 30339
404-434-7761

BOSTON AREA
385 Elliot Street
NEWTON UPPER FALLS, MA 02164
617-332-2700

CHICAGO AREA
715 Oak Brook Executive Plaza
1301 West 22nd Street
OAK BROOK, IL 60521
312-654-4700

DETROIT AREA
Suite 207
30200 Telegraph Road
BIRMINGHAM, MI 48012
313-357-3939

KANSAS CITY AREA
1000 Blue Ridge Tower
4240 Blue Ridge Boulevard
KANSAS CITY, MO 64133
816-353-6440

LOS ANGELES AREA
Suite 970 Wilshire Centre
3055 Wilshire Boulevard
LOS ANGELES, CA 90010
213-386-7436

PHILADELPHIA AREA
200 Office Center
275 Commerce Drive
FORT WASHINGTON, PA 19034
215-643-6805

CANADA
409 Weber Street, West
KITCHENER, ONT., Canada
519-742-3641

INTERNATIONAL DEPARTMENT
6100 Oak Tree Boulevard
CLEVELAND, OH 44131
Cable Address:
GOODRICHCHEM
Telex: 980427 goodchem idpc

BFG38297

The information contained herein is believed to be reliable, but no representations, guarantees or warranties of any kind are made as to its accuracy, suitability for particular applications or the results to be obtained therefrom. The information is based on laboratory work with small-scale equipment and does not necessarily indicate end product performance. Because of variations in methods, conditions and equipment used commercially in processing these materials, no warranties or guarantees are made as to the suitability of the products for the applications disclosed. Full-scale testing and end product performance are the responsibility of the user. BFGoodrich shall not be liable for and the customer assumes all risk and liability of any use or handling of any material beyond BFGoodrich's direct control. THE SELLER MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Nothing contained herein is to be considered as permission, recommendation, nor as an inducement to practice any patented invention without permission of the patent owner.