

MATERIAL SAFETY DATA SHEETRequired under USDL Safety and Health Regulations for Ship Repairing,
Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)**SECTION I**

MANUFACTURER'S NAME Hollingsworth & Vose Company		EMERGENCY TELEPHONE NO. 617 668-0295
ADDRESS (Number, Street, City, State, and ZIP Code) 112 Washington St East Walpole, MA 02032		
CHEMICAL NAME AND SYNONYMS Not applicable		TRADE NAME AND SYNONYMS Asbestopac 930 P. 5#290
CHEMICAL FAMILY Article	FORMULA Not applicable	

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Units)
Asbestos				78	2 f/cm ³
Carbon black				3	35 mg/M ³ ACGIH

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	N/A	SPECIFIC GRAVITY (H ₂ O=1)	1
VAPOR PRESSURE (mm Hg.)	N/A	PERCENT VOLATILE BY VOLUME (%)	Insignificant
VAPOR DENSITY (AIR=1)	N/A	EVAPORATION RATE (=1)	N/A
SOLUBILITY IN WATER	Negligible		
APPEARANCE AND ODOR	Gasketing paper		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	Not applicable	FLAMMABLE LIMITS	Lel	Uel
EXTINGUISHING MEDIA	Water, CO ₂			
SPECIAL FIRE FIGHTING PROCEDURES	Avoid breathing vapors			
UNUSUAL FIRE AND EXPLOSION HAZARDS	Toxic vapors may be released			

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved
OSHA No. 44-R1387

MATERIAL SAFETY DATA SHEET

P.S. 239

Required under USDL Safety and Health Regulations for Ship Repairing,
Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME Rogers Corporation	EMERGENCY TELEPHONE NO. 203-774-9605
ADDRESS (Number, Street, City, State, and ZIP Code) Rogers, Conn. 06263	
CHEMICAL NAME AND SYNONYMS N/A	TRADE NAME AND SYNONYMS GP/Duroid 3102
CHEMICAL FAMILY N/A	FORMULA N/A

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Units)
Asbestos fiber (bound)				73	*
*No ACGIH limit on bound asbestos					

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	N/A	SPECIFIC GRAVITY (H ₂ O=1)	1.50
VAPOR PRESSURE (mm Hg.)	N/A	PERCENT VOLATILE BY VOLUME (%)	N/A
VAPOR DENSITY (AIR=1)	N/A	EVAPORATION RATE (_____=1)	N/A
SOLUBILITY IN WATER	negligible		
APPEARANCE AND ODOR			

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	N/A	FLAMMABLE LIMITS	N/A	Lel	Uel
EXTINGUISHING MEDIA	Water or Dry Chemical				
SPECIAL FIRE FIGHTING PROCEDURES	none				
UNUSUAL FIRE AND EXPLOSION HAZARDS	none				

SECTION V - HEALTH HAZARD DATA	
THRESHOLD LIMIT VALUE	N/A - See Section II.
EFFECTS OF OVEREXPOSURE	
EMERGENCY AND FIRST AID PROCEDURES	
Good personal hygiene. If contact with dust occurs, wash with soap and water at first opportunity. Flush eyes with water for at least 15 minutes.	

SECTION VI - REACTIVITY DATA			
STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	
INCOMPATIBILITY (Materials to avoid)			
HAZARDOUS DECOMPOSITION PRODUCTS			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES	
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	
Vacuum up with vacuum containing exit air filter.	
Avoid generating dust.	
WASTE DISPOSAL METHOD	Place waste in labeled, sealed polyethylene bags and dispose of in an approved landfill site.

SECTION VIII - SPECIAL PROTECTION INFORMATION		
RESPIRATORY PROTECTION (Specify type) Not normally required.		
VENTILATION	LOCAL EXHAUST	SPECIAL
	MECHANICAL (General) X	OTHER
PROTECTIVE GLOVES	none	EYE PROTECTION none
OTHER PROTECTIVE EQUIPMENT none		

SECTION IX - SPECIAL PRECAUTIONS	
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	Avoid extremely rough handling which might generate dust.
OTHER PRECAUTIONS	If dusting is observed, use N.I.O.S.H. approved, appropriate respirator.

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MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing,
Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME	Rogers Corporation	EMERGENCY TELEPHONE NO.	203-774-9605
ADDRESS (Number, Street, City, State, and ZIP Code)	Rogers, Conn. 06263		
CHEMICAL NAME AND SYNONYMS	N/A	TRADE NAME AND SYNONYMS	GP/Duroid 3220
CHEMICAL FAMILY	N/A	FORMULA	N/A

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SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
Asbestos fiber (bound)	64	*
*No ACGIH limit on bound asbestos		

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	N/A	SPECIFIC GRAVITY (H ₂ O=1)	1.55
VAPOR PRESSURE (mm Hg)	N/A	PERCENT VOLATILE BY VOLUME (%)	N/A
VAPOR DENSITY (AIR=1)	N/A	EVAPORATION RATE (—=1)	N/A
SOLUBILITY IN WATER	negligible		
APPEARANCE AND ODOR			

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	N/A	FLAMMABLE LIMITS	N/A	Let	Uet
EXTINGUISHING MEDIA	Water or Dry Chemical				
SPECIAL FIRE FIGHTING PROCEDURES	none				
UNUSUAL FIRE AND EXPLOSION HAZARDS	none				
VPD-153-0001773					

SECTION V - HEALTH HAZARD DATA	
THRESHOLD LIMIT VALUE	N/A - See Section II.
EFFECTS OF OVEREXPOSURE	
EMERGENCY AND FIRST AID PROCEDURES	
Good personal hygiene. If contact with dust occurs, wash with soap and water at first opportunity. Flush eyes with water for at least 15 minutes.	

SECTION VI - REACTIVITY DATA			
STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	
INCOMPATIBILITY (Materials to avoid)			
HAZARDOUS DECOMPOSITION PRODUCTS			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES	
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	
Vacuum up with vacuum containing exit air filter.	
Avoid generating dust.	
WASTE DISPOSAL METHOD	Place waste in labeled, sealed polyethylene bags and dispose of in an approved landfill site.

SECTION VIII - SPECIAL PROTECTION INFORMATION			
RESPIRATORY PROTECTION (Specify type)		Not normally required.	
VENTILATION	LOCAL EXHAUST	SPECIAL	
	MECHANICAL (General)	X	OTHER
PROTECTIVE GLOVES	none	EYE PROTECTION	none
OTHER PROTECTIVE EQUIPMENT			
none			

SECTION IX - SPECIAL PRECAUTIONS	
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	Avoid extremely rough handling which might generate dust.
OTHER PRECAUTIONS	If dusting is observed, use N.I.O.S.H. approved, appropriate respirator.

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved
OMB No. 44-R1387

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing,
Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME	Rogers Corporation	EMERGENCY TELEPHONE NO.	203-774-9605
ADDRESS (Number, Street, City, State, and ZIP Code)	Rogers, Conn. 06263		
CHEMICAL NAME AND SYNONYMS	N/A	TRADE NAME AND SYNONYMS	GP/Duroid 3220
CHEMICAL FAMILY	N/A	FORMULA	N/A

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Units)
Asbestos fiber (bound)				64	*
*No ACGIH limit on bound asbestos					

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	N/A	SPECIFIC GRAVITY (H ₂ O=1)	1.55
VAPOR PRESSURE (mm Hg.)	N/A	PERCENT VOLATILE BY VOLUME (%)	N/A
VAPOR DENSITY (AIR=1)	N/A	EVAPORATION RATE (—=1)	N/A
SOLUBILITY IN WATER	negligible		
APPEARANCE AND ODOR			

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	N/A	FLAMMABLE LIMITS	N/A	Let	Uet
EXTINGUISHING MEDIA	Water or Dry Chemical				
SPECIAL FIRE FIGHTING PROCEDURES	none				
UNUSUAL FIRE AND EXPLOSION HAZARDS	none				

VPD-153-0001775

SECTION V - HEALTH HAZARD DATA	
THRESHOLD LIMIT VALUE	N/A - See Section II.
EFFECTS OF OVEREXPOSURE	
EMERGENCY AND FIRST AID PROCEDURES	Good personal hygiene. If contact with dust occurs, wash with soap and water at first opportunity. Flush eyes with water for at least 15 minutes.

SECTION VI - REACTIVITY DATA			
STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	
INCOMPATIBILITY (Materials to avoid)			
HAZARDOUS DECOMPOSITION PRODUCTS			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES	
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	
Vacuum up with vacuum containing exit air filter.	
Avoid generating dust.	
WASTE DISPOSAL METHOD	Place waste in labeled, sealed polyethylene bags and dispose of in an approved landfill site.

SECTION VIII - SPECIAL PROTECTION INFORMATION			
RESPIRATORY PROTECTION (Specify type)		Not normally required.	
VENTILATION	LOCAL EXHAUST	SPECIAL	
	MECHANICAL (General)	X	OTHER
PROTECTIVE GLOVES	none	EYE PROTECTION	none
OTHER PROTECTIVE EQUIPMENT none			

SECTION IX - SPECIAL PRECAUTIONS	
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	Avoid extremely rough handling which might generate dust.
OTHER PRECAUTIONS	If dusting is observed, use N.I.O.S.H. approved, appropriate respirator.

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U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing,
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SECTION I

MANUFACTURER'S NAME Rogers Corporation	EMERGENCY TELEPHONE NO. 203-774-9605
ADDRESS (Number, Street, City, State, and ZIP Code) Rogers, Conn. 06263	
CHEMICAL NAME AND SYNONYMS N/A	TRADE NAME AND SYNONYMS GP/Duroid 3700
CHEMICAL FAMILY N/A	FORMULA N/A

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Units)
Asbestos fiber (bound)				60	*
*No ACGIH limit on bound asbestos					

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	N/A	SPECIFIC GRAVITY (H ₂ O=1)	1.50
VAPOR PRESSURE (mm Hg.)	N/A	PERCENT VOLATILE BY VOLUME (%)	N/A
VAPOR DENSITY (AIR=1)	N/A	EVAPORATION RATE (____=1)	N/A
SOLUBILITY IN WATER	negligible		
APPEARANCE AND ODOR			

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	N/A	FLAMMABLE LIMITS	N/A	Lel	Uel
EXTINGUISHING MEDIA Water or Dry Chemical					
SPECIAL FIRE FIGHTING PROCEDURES none					
UNUSUAL FIRE AND EXPLOSION HAZARDS none					

VPD-153-0001766

SECTION V - HEALTH HAZARD DATA	
THRESHOLD LIMIT VALUE	N/A - See Section II.
EFFECTS OF OVEREXPOSURE	Good personal
EMERGENCY AND FIRST AID PROCEDURES	
Good personal hygiene. If contact with dust occurs, wash with soap and water at first opportunity. Flush eyes with water for at least 15 minutes.	

SECTION VI - REACTIVITY DATA			
STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	
INCOMPATIBILITY (Materials to avoid)			
HAZARDOUS DECOMPOSITION PRODUCTS			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES	
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	
Vacuum up with vacuum containing exit air filter.	
Avoid generating dust.	
WASTE DISPOSAL METHOD	Place waste in labeled, sealed polyethylene bags and dispose of in an approved landfill site.

SECTION VIII - SPECIAL PROTECTION INFORMATION			
RESPIRATORY PROTECTION (Specify type) Not normally required.			
VENTILATION	LOCAL EXHAUST	SPECIAL	
	MECHANICAL (General) X	OTHER	
PROTECTIVE GLOVES	none	EYE PROTECTION	none
OTHER PROTECTIVE EQUIPMENT none			

SECTION IX - SPECIAL PRECAUTIONS	
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	Avoid extremely rough handling which might generate dust.
OTHER PRECAUTIONS	If dusting is observed, use N.I.O.S.H. approved, appropriate respirator.

VPD-153-0001767

MATERIAL SAFETY DATA SHEETRequired under USDL Safety and Health Regulations for Ship Repairing,
Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)**SECTION I**

MANUFACTURER'S NAME Hollingsworth & Vose Company	EMERGENCY TELEPHONE NO. 617 668-0295
ADDRESS (Number, Street, City, State, and ZIP Code) 112 Washington St East Walpole, MA 02032	
CHEMICAL NAME AND SYNONYMS Not applicable	TRADE NAME AND SYNONYMS Asbestopac 932
CHEMICAL FAMILY Article	FORMULA Not applicable

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Units)
Asbestos				78	2 f/cm ³
Carbon black				3	3.5 mg/M ³ ACCUH

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	N/A	SPECIFIC GRAVITY (H ₂ O=1)	1
VAPOR PRESSURE (mm Hg.)	N/A	PERCENT VOLATILE BY VOLUME (%)	Insignificant
VAPOR DENSITY (AIR=1)	N/A	EVAPORATION RATE (_____=1)	N/A
SOLUBILITY IN WATER	Negligible		
APPEARANCE AND ODOR	Gasketing paper		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	Not applicable	FLAMMABLE LIMITS	Let	Uel
EXTINGUISHING MEDIA	Water, CO ₂			
SPECIAL FIRE FIGHTING PROCEDURES	Avoid breathing vapors			
UNUSUAL FIRE AND EXPLOSION HAZARDS	Toxic vapors may be released			

VPD-153-0001250

SECTION V - HEALTH HAZARD DATA	
THRESHOLD LIMIT VALUE	None established
EFFECTS OF OVEREXPOSURE	None to our knowledge
EMERGENCY AND FIRST AID PROCEDURES	Follow usual measures of personal hygiene

SECTION VI - REACTIVITY DATA			
STABILITY	UNSTABLE		CONDITIONS TO AVOID Hot, poorly ventilated areas
	STABLE	X	
INCOMPATIBILITY (Materials to avoid) None to our knowledge			
HAZARDOUS DECOMPOSITION PRODUCTS Burning may yield carbon monoxide, hydrogen sulfide, and other toxic vapors			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID Hot, poorly ventilated areas
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES	
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	Not applicable
WASTE DISPOSAL METHOD	Dispose of in accordance with local, state, and federal regulations

SECTION VIII - SPECIAL PROTECTION INFORMATION			
RESPIRATORY PROTECTION (Specify type) Respirators not normally required if adequate ventilation is provided			
VENTILATION	LOCAL EXHAUST	SPECIAL Recommended for cutting and slitting operations	
	MECHANICAL (General)	Recommended	OTHER
PROTECTIVE GLOVES	Not normally required	EYE PROTECTION	Not normally required
OTHER PROTECTIVE EQUIPMENT Not normally required			

I & V has been asked to supply the attached Material Safety Data Sheet ("MSDS") for the product. The fact that the MSDS is based on information supplied to H & V by third parties and the fact that H & V cannot guarantee the completeness or the accuracy of the data contained in the MSDS. H & V DISCLAIMS ANY AND ALL RESPONSIBILITY FOR ANY USE OR RELIANCE ON SUCH DATA.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Store in a cool, well-ventilated area

OTHER PRECAUTIONS: conditions of use and with respect to the product described in the MSDS. Although H & V has made a good effort in filling out the MSDS and believes the information herein to be reliable, H & V DOES NOT WARRANT OR GUARANTEE THE COMPLETENESS OR THE ACCURACY OF THE DATA CONTAINED IN THE MSDS. H & V DISCLAIMS ANY AND ALL RESPONSIBILITY FOR ANY USE OR RELIANCE ON SUCH DATA.

1063-361-271/2380
8/24/84
Form OSHA-20
Rev. May 72
VPD-153-0001251

MATERIAL SAFETY DATA SHEETRequired under USDL Safety and Health Regulations for Ship Repairing,
Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)**SECTION I**

MANUFACTURER'S NAME Hollingsworth & Vose Company		EMERGENCY TELEPHONE NO. 617 668-0295
ADDRESS (Number, Street, City, State, and ZIP Code) 112 Washington St. East Walpole, MA 02032		
CHEMICAL NAME AND SYNONYMS Not applicable		TRADE NAME AND SYNONYMS Asbestopac 930
CHEMICAL FAMILY Article	FORMULA Not applicable	

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
Asbestos	78	2 f/cm ³
Carbon black	3	35 mg/M ³ - ACGIH

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	N/A	SPECIFIC GRAVITY (H ₂ O=1)	1
VAPOR PRESSURE (mm Hg.)	N/A	PERCENT VOLATILE BY VOLUME (%)	Insignificant
VAPOR DENSITY (AIR=1)	N/A	EVAPORATION RATE (_____ =1)	N/A
SOLUBILITY IN WATER	Negligible		
APPEARANCE AND ODOR	Gasketing paper		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	Not applicable	FLAMMABLE LIMITS	Lel	Uel
EXTINGUISHING MEDIA	Water, CO ₂			
SPECIAL FIRE FIGHTING PROCEDURES	Avoid breathing vapors			
UNUSUAL FIRE AND EXPLOSION HAZARDS	Toxic vapors may be released			

SECTION V - HEALTH HAZARD DATA	
THRESHOLD LIMIT VALUE	None established
EFFECTS OF OVEREXPOSURE	None to our knowledge
EMERGENCY AND FIRST AID PROCEDURES	
Follow usual measures of personal hygiene	

SECTION VI - REACTIVITY DATA			
STABILITY	UNSTABLE		CONDITIONS TO AVOID Hot, poorly ventilated areas
	STABLE	X	
INCOMPATIBILITY (Materials to avoid)			
None to our knowledge			
HAZARDOUS DECOMPOSITION PRODUCTS			
Burning may yield carbon monoxide, hydrogen sulfide, and other toxic vapors			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID Hot, poorly ventilated areas
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES	
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	
Not applicable	
WASTE DISPOSAL METHOD	
Dispose of in accordance with local, state, and federal regulations	

SECTION VIII - SPECIAL PROTECTION INFORMATION		
RESPIRATORY PROTECTION (Specify type)		
Respirators not normally required if adequate ventilation is provided		
VENTILATION	LOCAL EXHAUST	SPECIAL
	MECHANICAL (General) Recommended	OTHER
PROTECTIVE GLOVES		EYE PROTECTION
Not normally required		Not normally required
OTHER PROTECTIVE EQUIPMENT		
Not normally required		

H & V has been asked to supply the Material Safety Data Sheet (MSDS) for the fact that some of the data contained in is third parties and the fact that H & V cannot anticipate all of the conditions of use and apply OTHER PRECAUTIONS to the product described in the MSDS. Although H & V has made a good faith effort in filling out the MSDS and believes the information, data and suggestions contained therein are reliable, H & V DOES NOT WARRANT OR GUARANTEE THE COMPLETENESS OR THE ACCURACY OF THE DATA CONTAINED IN THE MSDS. H & V DISCLAIMS ANY AND ALL RESPONSIBILITY FOR ANY USE OF OR RELIANCE ON SUCH DATA.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Store in a cool, well-ventilated area

VPD-153-0001239

MATERIAL SAFETY DATA SHEETRequired under USDL Safety and Health Regulations for Ship Repairing,
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ADDRESS (Number, Street, City, State, and ZIP Code) 112 Washington St. East Walpole, MA 02032		
CHEMICAL NAME AND SYNONYMS Not applicable		TRADE NAME AND SYNONYMS Asbestopac 932 P.S.# 625
CHEMICAL FAMILY Article	FORMULA Not applicable	

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Units)
Asbestos				78	2 f/cm ³
Carbon black				3	3.5 mg/M ³ ACCIH

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	N/A	SPECIFIC GRAVITY (H ₂ O=1)	1
VAPOR PRESSURE (mm Hg.)	N/A	PERCENT VOLATILE BY VOLUME (%)	Insignificant
VAPOR DENSITY (AIR=1)	N/A	EVAPORATION RATE (_____=1)	N/A
SOLUBILITY IN WATER	Negligible		
APPEARANCE AND ODOR	Gasketing paper		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	Not applicable	FLAMMABLE LIMITS	Let	Uet
EXTINGUISHING MEDIA	Water, CO ₂			
SPECIAL FIRE FIGHTING PROCEDURES	Avoid breathing vapors			
UNUSUAL FIRE AND EXPLOSION HAZARDS	Toxic vapors may be released			

VPD-153-0001244

SECTION V - HEALTH HAZARD DATA	
THRESHOLD LIMIT VALUE	None established
EFFECTS OF OVEREXPOSURE	None to our knowledge
EMERGENCY AND FIRST AID PROCEDURES	
Follow usual measures of personal hygiene	

SECTION VI - REACTIVITY DATA			
STABILITY	UNSTABLE		CONDITIONS TO AVOID Hot, poorly ventilated areas
	STABLE	X	
INCOMPATIBILITY (Materials to avoid)			
None to our knowledge			
HAZARDOUS DECOMPOSITION PRODUCTS			
Burning may yield carbon monoxide, hydrogen sulfide, and other toxic vapors			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID Hot, poorly ventilated areas
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES	
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	
Not applicable	
WASTE DISPOSAL METHOD	
Dispose of in accordance with local, state, and federal regulations	

SECTION VIII - SPECIAL PROTECTION INFORMATION			
RESPIRATORY PROTECTION (Specify type)			
Respirators not normally required if adequate ventilation is provided			
VENTILATION	LOCAL EXHAUST	SPECIAL	
	MECHANICAL (General)	OTHER	
PROTECTIVE GLOVES		EYE PROTECTION	
Not normally required		Not normally required	
OTHER PROTECTIVE EQUIPMENT			
Not normally required			

H & V has been asked to supply the attached Material Safety Data Sheet ("MSDS") for the fact. PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING is based on information supplied to H & V by third parties and the fact that H & V cannot provide OTHER PRECAUTIONS conditions of use and application with respect to the product described in the MSDS. Although H & V has made a good effort in filling out the MSDS and believes the information on PAGE (2), data and suggestions contained herein to be reliable, H & V DOES NOT WARRANT OR GUARANTEE THE COMPLETENESS OR THE ACCURACY OF THE DATA CONTAINED IN THE MSDS. H & V DISCLAIMS ANY AND ALL RESPONSIBILITY FOR ANY USE OF OR RELIANCE ON SUCH DATA.

1983-381-271/2380

8/24/84

Form OSHA-20
Rev. May 72

VPD-153-0001245

Chgo RLT

U.S. DEPARTMENT OF LABOR Occupational Safety and Health Administration	Form Approved OMB No. 44-R1387
MATERIAL SAFETY DATA SHEET	
Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)	

SECTION I			
MANUFACTURER'S NAME		EMERGENCY TELEPHONE NO.	
Rogers Corporation		203-774-9605	
ADDRESS (Number, Street, City, State, and ZIP Code)			
Rogers, Conn. 06263			
CHEMICAL NAME AND SYNONYMS		TRADE NAME AND SYNONYMS	
N/A		GP/Duroid 3220	
CHEMICAL FAMILY		FORMULA	
N/A		N/A	

P.S.
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SECTION II - HAZARDOUS INGREDIENTS					
PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Units)
Asbestos fiber (bound)				64	*
*No ACGIH limit on bound asbestos					

SECTION III - PHYSICAL DATA			
BOILING POINT (°F.)	N/A	SPECIFIC GRAVITY (H ₂ O=1)	1.55
VAPOR PRESSURE (mm Hg.)	N/A	PERCENT VOLATILE BY VOLUME (%)	N/A
VAPOR DENSITY (AIR=1)	N/A	EVAPORATION RATE (_____ =1)	N/A
SOLUBILITY IN WATER	negligible		
APPEARANCE AND ODOR			

SECTION IV - FIRE AND EXPLOSION HAZARD DATA			
FLASH POINT (Method used)	N/A	FLAMMABLE LIMITS	N/A
EXTINGUISHING MEDIA		Water or Dry Chemical	
SPECIAL FIRE FIGHTING PROCEDURES		none	
UNUSUAL FIRE AND EXPLOSION HAZARDS		none	

SECTION V - HEALTH HAZARD DATA	
THRESHOLD LIMIT VALUE	N/A - See Section II.
EFFECTS OF OVEREXPOSURE	
EMERGENCY AND FIRST AID PROCEDURES	
Good personal hygiene. If contact with dust occurs, wash with soap and water at first opportunity. Flush eyes with water for at least 15 minutes.	

SECTION VI - REACTIVITY DATA			
STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	
INCOMPATIBILITY (Materials to avoid)			
HAZARDOUS DECOMPOSITION PRODUCTS			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES	
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	
Vacuum up with vacuum containing exit air filter.	
Avoid generating dust.	
WASTE DISPOSAL METHOD	Place waste in labeled, sealed polyethylene bags and dispose of in an approved landfill site.

SECTION VIII - SPECIAL PROTECTION INFORMATION			
RESPIRATORY PROTECTION (Specify type) Not normally required.			
VENTILATION	LOCAL EXHAUST		SPECIAL
	MECHANICAL (General)	X	OTHER
PROTECTIVE GLOVES	none	EYE PROTECTION	none
OTHER PROTECTIVE EQUIPMENT none			

SECTION IX - SPECIAL PRECAUTIONS	
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	Avoid extremely rough handling which might generate dust.
OTHER PRECAUTIONS	If dusting is observed, use N.I.O.S.H. approved, appropriate respirator.

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U.S. DEPARTMENT OF LABOR Occupational Safety and Health Administration	Form Approved OMB No. 44-R1387
MATERIAL SAFETY DATA SHEET	
Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)	

SECTION I	
MANUFACTURER'S NAME Rogers Corporation	EMERGENCY TELEPHONE NO. 203-774-9605
ADDRESS (Number, Street, City, State, and ZIP Code) Rogers, Conn. 06263	
CHEMICAL NAME AND SYNONYMS N/A	TRADE NAME AND SYNONYMS GP/Duroid 3700
CHEMICAL FAMILY N/A	FORMULA N/A

*P.S.
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SECTION II - HAZARDOUS INGREDIENTS					
PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Units)
Asbestos fiber (bound)				60	*
*No ACGIH limit on bound asbestos					

SECTION III - PHYSICAL DATA			
BOILING POINT (°F.)	N/A	SPECIFIC GRAVITY (H ₂ O=1)	1.50
VAPOR PRESSURE (mm Hg.)	N/A	PERCENT VOLATILE BY VOLUME (%)	N/A
VAPOR DENSITY (AIR=1)	N/A	EVAPORATION RATE (—=1)	N/A
SOLUBILITY IN WATER	negligible		
APPEARANCE AND ODOR			

SECTION IV - FIRE AND EXPLOSION HAZARD DATA			
FLASH POINT (Method used)	N/A	FLAMMABLE LIMITS	N/A
		Lel	Uel
EXTINGUISHING MEDIA Water or Dry Chemical			
SPECIAL FIRE FIGHTING PROCEDURES none			
UNUSUAL FIRE AND EXPLOSION HAZARDS none			

VPD-153-0001411

SECTION V - HEALTH HAZARD DATA	
THRESHOLD LIMIT VALUE	N/A - See Section II.
EFFECTS OF OVEREXPOSURE	Good personal
EMERGENCY AND FIRST AID PROCEDURES	
Good personal hygiene. If contact with dust occurs, wash with soap and water at first opportunity. Flush eyes with water for at least 15 minutes.	

SECTION VI - REACTIVITY DATA			
STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	
INCOMPATIBILITY (Materials to avoid)			
HAZARDOUS DECOMPOSITION PRODUCTS			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES	
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	
Vacuum up with vacuum containing exit air filter.	
Avoid generating dust.	
WASTE DISPOSAL METHOD	Place waste in labeled, sealed polyethylene bags and dispose of in an approved landfill site.

SECTION VIII - SPECIAL PROTECTION INFORMATION			
RESPIRATORY PROTECTION (Specify type)		Not normally required.	
VENTILATION	LOCAL EXHAUST	SPECIAL	
	MECHANICAL (General)	X	OTHER
PROTECTIVE GLOVES	none	EYE PROTECTION	none
OTHER PROTECTIVE EQUIPMENT none			

SECTION IX - SPECIAL PRECAUTIONS	
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	Avoid extremely rough handling which might generate dust.
OTHER PRECAUTIONS	If dusting is observed, use N.I.O.S.H. approved, appropriate respirator.

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

MATERIAL SAFETY DATA SHEET

Form Approved
OSHA-20 44-R1367

Robinson
P.S. 239

Required under USDL Safety and Health Regulations for Ship Repairing,
Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME Rogers Corporation		EMERGENCY TELEPHONE NO. 203-774-9605
ADDRESS (Number, Street, City, State, and ZIP Code) Rogers, Conn. 06263		
CHEMICAL NAME AND SYNONYMS N/A	TRADE NAME AND SYNONYMS GP/Duroid 3102	
CHEMICAL FAMILY N/A	FORMULA N/A	

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
Asbestos fiber (bound)	73	*
*No ACGIH limit on bound asbestos		

SECTION III - PHYSICAL DATA

BOILING POINT (°F)	N/A	SPECIFIC GRAVITY (H ₂ O=1)	1.50
VAPOR PRESSURE (mm Hg.)	N/A	PERCENT VOLATILE BY VOLUME (%)	N/A
VAPOR DENSITY (AIR=1)	N/A	EVAPORATION RATE (_____=1)	N/A
SOLUBILITY IN WATER	negligible		
APPEARANCE AND ODOR			

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	N/A	FLAMMABLE LIMITS	N/A	Let	Uel
EXTINGUISHING MEDIA	Water or Dry Chemical				
SPECIAL FIRE FIGHTING PROCEDURES	none				
UNUSUAL FIRE AND EXPLOSION HAZARDS	none				
VPD-153-0001777					

SECTION V - HEALTH HAZARD DATA	
THRESHOLD LIMIT VALUE	N/A - See Section II.
EFFECTS OF OVEREXPOSURE	
EMERGENCY AND FIRST AID PROCEDURES	
Good personal hygiene. If contact with dust occurs, wash with soap and water at first opportunity. Flush eyes with water for at least 15 minutes.	

SECTION VI - REACTIVITY DATA			
STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	
INCOMPATIBILITY (Materials to avoid)			
HAZARDOUS DECOMPOSITION PRODUCTS			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES	
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	
Vacuum up with vacuum containing exit air filter.	
Avoid generating dust.	
WASTE DISPOSAL METHOD	Place waste in labeled, sealed polyethylene bags and dispose of in an approved landfill site.

SECTION VIII - SPECIAL PROTECTION INFORMATION			
RESPIRATORY PROTECTION (Specify type) Not normally required.			
VENTILATION	LOCAL EXHAUST		SPECIAL
	MECHANICAL (General)	X	OTHER
PROTECTIVE GLOVES		none	EYE PROTECTION
OTHER PROTECTIVE EQUIPMENT		none	none

SECTION IX - SPECIAL PRECAUTIONS	
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	Avoid extremely rough handling which might generate dust.
OTHER PRECAUTIONS	If dusting is observed, use N.I.O.S.H. approved, appropriate respirator.

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved
OMB No. 44-R1367

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing,
Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME Rogers Corporation	EMERGENCY TELEPHONE NO. 203-774-9605
ADDRESS (Number, Street, City, State, and ZIP Code) Rogers, Conn. 06263	
CHEMICAL NAME AND SYNONYMS N/A	TRADE NAME AND SYNONYMS GP/Duroid 3102
CHEMICAL FAMILY N/A	FORMULA N/A

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Units)
Asbestos fiber (bound)				73	*
*No ACGIH limit on bound asbestos					

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	N/A	SPECIFIC GRAVITY (H ₂ O=1)	1.50
VAPOR PRESSURE (mm Hg.)	N/A	PERCENT VOLATILE BY VOLUME (%)	N/A
VAPOR DENSITY (AIR=1)	N/A	EVAPORATION RATE (_____=1)	N/A
SOLUBILITY IN WATER	negligible		
APPEARANCE AND COLOR			

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	N/A	FLAMMABLE LIMITS	N/A	Lel	Uel
EXTINGUISHING MEDIA	Water or Dry Chemical				
SPECIAL FIRE FIGHTING PROCEDURES	none				
UNUSUAL FIRE AND EXPLOSION HAZARDS					
none					

VPD-153-0001781

SECTION V - HEALTH HAZARD DATA	
THRESHOLD LIMIT VALUE	N/A - See Section II.
EFFECTS OF OVEREXPOSURE	
EMERGENCY AND FIRST AID PROCEDURES	Good personal hygiene. If contact with dust occurs, wash with soap and water at first opportunity. Flush eyes with water for at least 15 minutes.

SECTION VI - REACTIVITY DATA			
STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	
INCOMPATIBILITY (Materials to avoid)			
HAZARDOUS DECOMPOSITION PRODUCTS			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES	
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	
Vacuum up with vacuum containing exit air filter.	
Avoid generating dust.	
WASTE DISPOSAL METHOD	Place waste in labeled, sealed polyethylene bags and dispose of in an approved landfill site.

SECTION VIII - SPECIAL PROTECTION INFORMATION			
RESPIRATORY PROTECTION (Specify type)		Not normally required.	
VENTILATION	LOCAL EXHAUST		SPECIAL
	MECHANICAL (General)	X	OTHER
PROTECTIVE GLOVES	none	EYE PROTECTION	none
OTHER PROTECTIVE EQUIPMENT none			

SECTION IX - SPECIAL PRECAUTIONS	
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	Avoid extremely rough handling which might generate dust.
OTHER PRECAUTIONS	If dusting is observed, use N.I.O.S.H. approved, appropriate respirator.

MATERIAL SAFETY DATA SHEET

F-53 COMPRESSED SHEET

Chp Ret
P.S. 964
Dept-205

SECTION I

MANUFACTURER'S NAME Raybestos-Manhattan, Inc.		EMERGENCY TELEPHONE NO. (203) 371-0101
ADDRESS (Number, Street, City, State, and ZIP Code) 100 Oakview Drive, Trumbull, Connecticut 06611		
CHEMICAL NAME AND SYNONYMS F-53 Compressed Sheet		TRADE NAME AND SYNONYMS F-53 Compressed Sheet
CHEMICAL FAMILY	FORMULA	

SECTION II HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS				WT	
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Units)
Asbestos				30/70	2 g/cc
Rubber (Incl. NBR)				30/70	NL
Litharge				0/10	0.2 mg/m ³
Carbon				0/10	
Barium Sulfite				30/70	NL

SECTION III PHYSICAL DATA

BOILING POINT (°F.)	N/A	SPECIFIC GRAVITY (H ₂ O=1)	
VAPOR PRESSURE (mm Hg)	N/A	PERCENT VOLATILE BY VOLUME (%)	0
VAPOR DENSITY (AIR=1)	N/A	EVAPORATION RATE (H ₂ O=1)	N/A
SOLUBILITY IN WATER			
APPEARANCE AND ODOR			

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	None	FLAMMABLE LIMITS	---
EXTINGUISHING MEDIA	CO ₂ Foam		
SPECIAL FIRE FIGHTING PROCEDURES	---		
UNUSUAL FIRE AND EXPLOSION HAZARDS	---		

VPD-189-0000970

01100

SECTION V HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE See section II

EFFECTS OF OVEREXPOSURE Chronic - Asbestosis and Cancer

EMERGENCY AND FIRST AID PROCEDURES N/A

SECTION VI: REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	

INCOMPATIBILITY (Materials to avoid) Avoid strong oxidizers (NBR number)

HAZARDOUS DECOMPOSITION PRODUCTS Incomplete combustion may release toxic material -(NBR number)-.

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII: SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Vacuum or wet cleaning if dust involved.

WASTE DISPOSAL METHOD

Sealed containers properly labeled as specified in 29CFR1910.1001.

SECTION VIII: SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)
NIOSH approved respirator for dust and asbestos fiber - See 1910.1001.

VENTILATION	LOCAL EXHAUST	Depends on usage	SPECIAL
	MECHANICAL (General)		OTHER

PROTECTIVE GLOVES

EYE PROTECTION

OTHER PROTECTIVE EQUIPMENT
Depends on usage (See 1910.1001)

SECTION IX: SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Proper labels required. 1910.1001

VPD-189-0000971

OTHER PRECAUTIONS

01409

MATERIAL SAFETY DATA SHEETRequired under USDL Safety and Health Regulations for Ship Repairing,
Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)**SECTION I**

MANUFACTURER'S NAME Hollingsworth & Vose Company	EMERGENCY TELEPHONE NO. 617 668-0295
ADDRESS (Number, Street, City, State, and ZIP Code) 112 Washington St. East Walpole, MA 02032	
CHEMICAL NAME AND SYNONYMS Not applicable	TRADE NAME AND SYNONYMS Asbestopac 932
CHEMICAL FAMILY Article	FORMULA Not applicable

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Units)
Asbestos				78	2 f/cm ³
Carbon black				3	3.5 mg/M ³
					ACGIH

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	N/A	SPECIFIC GRAVITY (H ₂ O=1)	1
VAPOR PRESSURE (mm Hg.)	N/A	PERCENT VOLATILE BY VOLUME (%)	Insignificant
VAPOR DENSITY (AIR=1)	N/A	EVAPORATION RATE (_____ =1)	N/A
SOLUBILITY IN WATER	Negligible		
APPEARANCE AND ODOR	Gasketing paper		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	Not applicable	FLAMMABLE LIMITS	Not applicable	Let	Uet
EXTINGUISHING MEDIA	Water, CO ₂				
SPECIAL FIRE FIGHTING PROCEDURES	Avoid breathing vapors				
UNUSUAL FIRE AND EXPLOSION HAZARDS	Toxic vapors may be released				

VPD-153-0001250

SECTION V - HEALTH HAZARD DATA	
THRESHOLD LIMIT VALUE	None established
EFFECTS OF OVEREXPOSURE	None to our knowledge
EMERGENCY AND FIRST AID PROCEDURES	
Follow usual measures of personal hygiene	

SECTION VI - REACTIVITY DATA			
STABILITY	UNSTABLE		CONDITIONS TO AVOID Hot, poorly ventilated areas
	STABLE	X	
INCOMPATIBILITY (Materials to avoid)			
None to our knowledge			
HAZARDOUS DECOMPOSITION PRODUCTS			
Burning may yield carbon monoxide, hydrogen sulfide, and other toxic vapors			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID Hot, poorly ventilated areas
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES	
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	Not applicable
WASTE DISPOSAL METHOD	
Dispose of in accordance with local, state, and federal regulations	

SECTION VIII - SPECIAL PROTECTION INFORMATION			
RESPIRATORY PROTECTION (Specify type)			
Respirators not normally required if adequate ventilation is provided			
VENTILATION	LOCAL EXHAUST	SPECIAL	
	Recommended for cutting and slitting operations		
	MECHANICAL (General)	Recommended	OTHER
PROTECTIVE GLOVES	Not normally required		EYE PROTECTION
			Not normally required
OTHER PROTECTIVE EQUIPMENT			
Not normally required			

I & V has been asked to supply the attached Safety Data Sheet ("MSDS") for the material. The MSDS is based on information supplied to H & V by third parties and the fact that H & V cannot guarantee the completeness or the accuracy of the data contained in the MSDS. H & V DISCLAIMS ANY AND ALL RESPONSIBILITY FOR ANY USE OR RELIANCE ON SUCH DATA.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Store in a cool, well-ventilated area

OTHER PRECAUTIONS: Conditions of use and with respect to the product described in the MSDS. Although H & V has made a good effort in filling out the MSDS and believes the information herein to be reliable, H & V DOES NOT WARRANT OR GUARANTEE THE COMPLETENESS OR THE ACCURACY OF THE DATA CONTAINED IN THE MSDS. H & V DISCLAIMS ANY AND ALL RESPONSIBILITY FOR ANY USE OR RELIANCE ON SUCH DATA.

1963-361-27172360

8/24/84

Form OSHA-20
Rev. May 72

VPD-153-0001251

MATERIAL SAFETY DATA SHEETRequired under USDL Safety and Health Regulations for Ship Repairing,
Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)**SECTION I**

MANUFACTURER'S NAME Hollingsworth & Vose Company		EMERGENCY TELEPHONE NO. 617 668-0295
ADDRESS (Number, Street, City, State, and ZIP Code) 112 Washington St. East Walpole, MA 02032		
CHEMICAL NAME AND SYNONYMS Not applicable	TRADE NAME AND SYNONYMS Asbestopac 930 P.5#290	
CHEMICAL FAMILY Article	FORMULA Not applicable	

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Units)
Asbestos				78	2 f/cm ³
Carbon black				3	35 mg/M ³ - ACGIH

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	N/A	SPECIFIC GRAVITY (H ₂ O=1)	1
VAPOR PRESSURE (mm Hg.)	N/A	PERCENT VOLATILE BY VOLUME (%)	Insignificant
VAPOR DENSITY (AIR=1)	N/A	EVAPORATION RATE (_____ =1)	N/A
SOLUBILITY IN WATER	Negligible		
APPEARANCE AND ODOR	Gasketing paper		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Methods used)	Not applicable	FLAMMABLE LIMITS	Lei	Uei
EXTINGUISHING MEDIA	Water, CO ₂			
SPECIAL FIRE FIGHTING PROCEDURES	Avoid breathing vapors			
UNUSUAL FIRE AND EXPLOSION HAZARDS	Toxic vapors may be released			

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE	None established
EFFECTS OF OVEREXPOSURE	None to our knowledge
EMERGENCY AND FIRST AID PROCEDURES	Follow usual measures of personal hygiene

SECTION VI - REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID Hot, poorly ventilated areas
	STABLE	X	
INCOMPATIBILITY (Materials to avoid) None to our knowledge			
HAZARDOUS DECOMPOSITION PRODUCTS Burning may yield carbon monoxide, hydrogen sulfide, and other toxic vapors			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID Hot, poorly ventilated areas
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	Not applicable
WASTE DISPOSAL METHOD	Dispose of in accordance with local, state, and federal regulations

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type) Respirators not normally required if adequate ventilation is provided		
VENTILATION	LOCAL EXHAUST Recommended for cutting and slitting operations	SPECIAL
	MECHANICAL (General) Recommended	OTHER
PROTECTIVE GLOVES	Not normally required	EYE PROTECTION Not normally required
OTHER PROTECTIVE EQUIPMENT Not normally required		

"H & V has been asked to supply the Material Safety Data Sheet (MSDS) the fact that some of the data contained in is third party and the fact that H & V cannot anticipate all of the conditions of use and apply other precautions to the product described in the MSDS. Although H & V has made a good faith effort in filling out the MSDS and believes the information, data and suggestions contained therein to be reliable, H & V DOES NOT WARRANT OR GUARANTEE THE COMPLETENESS OR THE ACCURACY OF THE DATA CONTAINED IN THE MSDS. H & V DISCLAIMS ANY AND ALL RESPONSIBILITY FOR ANY USE OF OR RELIANCE ON SUCH DATA.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE	Store in a cool, well-ventilated area
OTHER PRECAUTIONS	

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VPD-153-0001239

MATERIAL SAFETY DATA SHEETRequired under USDL Safety and Health Regulations for Ship Repairing,
Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)**SECTION I**

MANUFACTURER'S NAME Hollingsworth & Vose Company		EMERGENCY TELEPHONE NO. 617 668-0295
ADDRESS (Number, Street, City, State, and ZIP Code) 112 Washington St East Walpole, MA 02032		
CHEMICAL NAME AND SYNONYMS Not applicable		TRADE NAME AND SYNONYMS Asbestopac 932 P.S.# 625
CHEMICAL FAMILY Article	FORMULA Not applicable	

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Units)
Asbestos				78	2 f/cm ³
Carbon black				3	3.5 mg/M ³ ACGIH

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	N/A	SPECIFIC GRAVITY (H ₂ O=1)	1
VAPOR PRESSURE (mm Hg.)	N/A	PERCENT VOLATILE BY VOLUME (%)	Insignificant
VAPOR DENSITY (AIR=1)	N/A	EVAPORATION RATE (_____ =1)	N/A
SOLUBILITY IN WATER	Negligible		
APPEARANCE AND ODOR	Gasketing paper		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	Not applicable	FLAMMABLE LIMITS	Not applicable	Let	Uet
EXTINGUISHING MEDIA	Water, CO ₂				
SPECIAL FIRE FIGHTING PROCEDURES	Avoid breathing vapors				
UNUSUAL FIRE AND EXPLOSION HAZARDS	Toxic vapors may be released				

SECTION V - HEALTH HAZARD DATA	
THRESHOLD LIMIT VALUE	None established
EFFECTS OF OVEREXPOSURE	None to our knowledge
EMERGENCY AND FIRST AID PROCEDURES	
Follow usual measures of personal hygiene	

SECTION VI - REACTIVITY DATA			
STABILITY	UNSTABLE		CONDITIONS TO AVOID Hot, poorly ventilated areas
	STABLE	X	
INCOMPATIBILITY (Materials to avoid)			
None to our knowledge			
HAZARDOUS DECOMPOSITION PRODUCTS			
Burning may yield carbon monoxide, hydrogen sulfide, and other toxic vapors			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID Hot, poorly ventilated areas
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES	
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	
Not applicable	
WASTE DISPOSAL METHOD	
Dispose of in accordance with local, state, and federal regulations	

SECTION VIII - SPECIAL PROTECTION INFORMATION		
RESPIRATORY PROTECTION (Specify type)		
Respirators not normally required if adequate ventilation is provided		
VENTILATION	LOCAL EXHAUST	SPECIAL OPERATIONS
	MECHANICAL (General)	
Recommended for cutting and slitting		OTHER
PROTECTIVE GLOVES		EYE PROTECTION
Not normally required		Not normally required
OTHER PROTECTIVE EQUIPMENT		
Not normally required		

1 & V has been asked to supply the attached Safety Data Sheet ("MSDS") for the material. H & V cannot guarantee the completeness or the accuracy of the data contained in the MSDS. H & V DISCLAIMS ALL RESPONSIBILITY FOR ANY USE OF OR RELIANCE ON SUCH DATA.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Store in a cool, well-ventilated area

OTHER PRECAUTIONS: Conditions of use and with respect to the product described in the MSDS. Although H & V has made a good effort in filling out the MSDS and believes the information on PAGE (2), data and suggestions contained herein to be reliable, H & V DOES NOT WARRANT OR GUARANTEE THE COMPLETENESS OR THE ACCURACY OF THE DATA CONTAINED IN THE MSDS. H & V DISCLAIMS ALL RESPONSIBILITY FOR ANY USE OF OR RELIANCE ON SUCH DATA.

1983-381-271/2380
8/24/84
Form OSHA-20
Rev. May 72
VPD-153-0001245