



Material Safety Data Sheet

Western Automotive Finishes
101 Prospect Ave. N.W.
Cleveland, OH 44115

Emergency telephone number
Information telephone number
Date of preparation

(216) 566-2917
(216) 566-2902
August 09, 2003

DIMENSION® Acrylic Enamel System

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DM-ACR/W

CAS No.	— Section 2 — Hazardous Ingredients (percent by weight)	ACGIH TLV <STEL>	OSHA PEL <STEL>	Units	LD50 (Rat-Oral) mg/kg	LC50 (Rat) ppm/4hr	Vapor Pressure mm	3A-LF Non-Lead Colors	3A-LL Lead Colors	5A-LF Non-Lead Colors	5A-LL Lead Colors	DH654 Standard Hardener
64742-88-7	Mineral Spirits	100	100	ppm	NAv	NAv	2.0	1 - 2	1 - 2	1 - 2	1 - 2	
108-88-3	§ Toluene	50	100 <150>	ppm (skin)	5000	4000	22.0	0.5 - 8	0.5 - 8	0 - 11	0 - 11	
100-41-4	§ Ethylbenzene	100 <125>	100 <125>	ppm	3500	NAv	7.1	1 - 2	1 - 2	4 - 7	4 - 7	
1330-20-7	§ Xylene	100 <150>	100 <150>	ppm	4300	5000	5.9	8 - 15	8 - 15	25 - 41	25 - 41	
111-76-2	§ 2-Butoxyethanol	20	20	ppm (skin)	470	NAv	0.9	1 - 2	1 - 2	1 - 2	1 - 2	
67-64-1	Acetone	500 <750>	1000	ppm	5800	NAv	180.0	5 - 8	5 - 8			
78-93-3	§ Methyl Ethyl Ketone	200 <300>	200 <300>	ppm	2740	NAv	70.0	0.5 - 4	0.5 - 4	0 - 7	0 - 7	
107-87-9	Methyl n-Propyl Ketone	200 <250>	200 <250>	ppm	1600	NAv	27.8	6 - 8	6 - 8			
123-86-4	n-Butyl Acetate	150 <200>	150 <200>	ppm	13100	2000	10.0	3 - 8	3 - 8	4 - 10	4 - 10	24
112-07-2	§ 2-Butoxyethyl Acetate	NAv	NAv		2400	NAv	1.0	0 - 2	0 - 2	0 - 2	0 - 2	
28182-81-2	Hexamethylene Diisocyanate Polymer	0.5 C 1		Mg/M3 Supplier Limit		NAv	NAv					76
822-06-0	HMDI Monomer (max.)	0.005		ppm	738	NAv						0.2
136-52-7	§ Cobalt 2-Ethylhexanoate	NAv	NAv		NAv	NAv		0.1 - 0.2	0.1 - 0.2			
Proprietary	Light Stabilizer	NAv	NAv		3125	NAv		1	1			
Proprietary	Coated Mica	2	2	mg/m3 as Dust	NAv	NAv		0 - 5	0 - 5	0 - 5	0 - 5	
13463-67-7	Titanium Dioxide	10	10[5]	Mg/M3 as Dust [Resp. Fraction]	NAv	NAv		0 - 20	0 - 20	0 - 20	0 - 20	
1333-86-4	Carbon Black	3.5	3.5	mg/m3	NAv	NAv		0 - 1	0 - 1	0 - 1	0 - 1	
1344-37-2	Lead Chromate	0.05	0.05	mg/m3	NAv	NAv			<15		<15	
12656-85-8	Molybdate Orange											
8007-18-9	Nickel Antimony Titanate	0.5	0.5	mg/m3	NAv	NAv		0 - 2	0 - 2	0 - 2	0 - 2	
	§ Antimony Compound [% Antimony] - maximum							2 [0.2]	2 [0.2]	2 [0.2]	2 [0.2]	
	§ Chromium Compound [% Chromium] - maximum								15 [2.2]		15 [2.2]	
	§ Lead Compound [% Lead] - maximum								15 [9.0]		15 [9.0]	
	§ Nickel Compound [% Nickel] - maximum							2 [0.08]	2 [0.08]	2 [0.08]	2 [0.08]	
	Weight per Gallon (lbs.)							8 - 10	8 - 10	8 - 10	8 - 10	8.93
	VOC (Volatile Organic Compounds) Emitted - lbs./gal.							2.8 - 3.0	2.8 - 3.0	4.5 - 4.7	4.5 - 4.7	2.14
	VOC Less Water & Federally Exempt Solvents - lbs./gal.							3.1 - 3.2	2.8 - 3.0	4.5 - 4.7	4.5 - 4.7	2.14
	Photochemically Reactive							Yes	Yes	Yes	Yes	No
	Flash Point (°F)							30 - 50	30 - 50	30 - 50	30 - 50	81
	HMS (NFPA) Rating (health - flammability - reactivity) / DOL Storage Category							2*-3-0 / 1B	2*-3-0 / 1B	2*-3-0 / 1B	2*-3-0 / 1B	3*-3-1 / 1B

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§ Ingredient subject to the reporting requirements of the Superfund Amendments and Reauthorization Act (SARA) Section 313, 40 CFR 372.65 C

Section 3 — Hazards Identification

ROUTES OF EXPOSURE - INHALATION of vapor or spray mist. EYE or SKIN contact with the product, vapor or spray mist.

EFFECTS OF OVEREXPOSURE - EYES: Irritation. SKIN: Prolonged or repeated exposure may cause irritation. INHALATION: Irritation of the upper respiratory system.

May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.

Certain colors contain Lead (see product label). Acute occupational exposure to Lead is uncommon, but results in effects and symptoms similar to chronic overexposure described below.

SIGNS AND SYMPTOMS OF OVEREXPOSURE - Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists. Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE - Hardener may cause allergic respiratory and/or skin reaction in susceptible persons or sensitization. This effect may be delayed several hours after exposure.

CANCER INFORMATION - For complete discussion of toxicology data refer to Section 11.

Section 4 — First Aid Measures

If INHALED: If any breathing problems occur during use, LEAVE THE AREA and get fresh air.

If problems remain or occur later, IMMEDIATELY get medical attention.

If on SKIN: Wash affected area thoroughly with soap and water.

Remove contaminated clothing & launder before re-use.

If in EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.

If SWALLOWED: Do not induce vomiting. Get medical attention immediately.

Section 5 — Fire Fighting Measures

FLASH POINT	<i>LEL</i>	<i>UEL</i>
See TABLE	0.5	12.8

FLAMMABILITY CLASSIFICATION - RED LABEL -- Flammable, Flash below 100 °F

EXTINGUISHING MEDIA - Carbon Dioxide, Dry Chemical, Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS - Closed containers may explode when exposed to extreme heat.

Application to hot surfaces requires special precautions. During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES - Full protective equipment including self-contained breathing apparatus should be used. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up & possible autoignition or explosion when exposed to extreme heat.

Section 6 — Accidental Release Measures

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED - Remove all sources of ignition.

Ventilate the area. Remove with inert absorbent.

Section 7 — Handling and Storage

STORAGE CATEGORY - See TABLE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING - Contents are FLAMMABLE. Keep away from heat, sparks, and open flame. During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition. Consult NFPA Code. Use approved Bonding and Grounding procedures. Keep container closed when not in use. Transfer only to approved containers with complete and appropriate labeling. Do not take internally. Keep out of the reach of children.

Section 8 — Exposure Controls/Personal Protection

PRECAUTIONS TO BE TAKEN IN USE -

NO PERSON SHOULD USE THESE PRODUCTS, OR BE IN THE AREA WHERE THESE PRODUCTS ARE BEING USED, IF THEY HAVE CHRONIC (LONG-TERM) LUNG OR BREATHING PROBLEMS OR IF THEY EVER HAD A REACTION TO ISOCYANATES.

Certain colors contain Lead (see product label). Before initial use of lead-containing colors, consult OSHA's Standard for Occupational Exposure to Lead (29 CFR 1910.1025).

Use only with adequate ventilation. Avoid contact with skin and eyes. Avoid breathing vapor and spray mist. Wash hands after using.

These coatings may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m³ (total dust), 3 mg/m³ (respirable fraction), OSHA PEL 15 mg/m³ (total dust), 5 mg/m³ (respirable fraction).

VENTILATION - Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION - Where overspray is present, a positive pressure air supplied respirator (TC19C NIOSH/MSHA approved) should be worn. If unavailable, a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2 may be effective. Follow respirator manufacturer's directions for use. Wear the respirator for the whole time of spraying and until all vapors and mists are gone. NO PERSONS SHOULD BE ALLOWED IN THE AREA WHERE THESE PRODUCTS ARE BEING USED UNLESS EQUIPPED WITH THE SAME RESPIRATOR PROTECTION RECOMMENDED FOR THE PAINTERS.

When sanding, wirebrushing, abrading, burning or welding the dried film, wear a particulate respirator approved by NIOSH/MSHA for protection against non-volatile materials in Section 2.

PROTECTIVE GLOVES - Wear gloves recommended by glove supplier for protection against materials in Section 2.

EYE PROTECTION - Wear safety spectacles with unperforated sideshields.

OTHER PROTECTION - Wear barrier cream on exposed skin.

OTHER PRECAUTIONS -

Certain colors contain Lead (see product label). Do not apply lead-containing colors on toys and other children's articles, furniture, or any interior surface of a dwelling or facility which may be occupied or used by children. Do not apply on any exterior surface of dwelling units, such as window sills, porches, stairs, or railings to which children may be commonly exposed.

These products must be mixed with other components before use. Before opening the packages, READ AND FOLLOW WARNING LABELS ON ALL COMPONENTS.

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

Section 9 — Physical and Chemical Properties

PRODUCT WEIGHT	See TABLE	EVAPORATION RATE	Slower than ether
SPECIFIC GRAVITY	0.96 - 1.20	VAPOR DENSITY	Heavier than air
BOILING POINT	174 - 395 °F	MELTING POINT	Not Available
VOLATILE VOLUME	30 - 70 %	SOLUBILITY IN WATER	Not Available

Section 10 — Stability and Reactivity

STABILITY - Stable

CONDITIONS TO AVOID - None known.

INCOMPATIBILITY - Metallics contain aluminum. Contamination with Water, Acids, or Alkalis can cause evolution of hydrogen, which may result in dangerously increased pressures in closed containers.

HAZARDOUS DECOMPOSITION PRODUCTS - By fire: Carbon Monoxide & Dioxide, Oxides of Metals in Section 2

HAZARDOUS POLYMERIZATION - Will not occur

Section 11 — Toxicological Information

CHRONIC HEALTH HAZARDS -

Certain colors contain Lead and Chromates (see product label) Chronic overexposure to Lead may result in damage to the blood-forming, nervous, urinary, and reproductive systems (including embryotoxic effects). Symptoms include abdominal discomfort or pain, constipation, loss of appetite, metallic taste, nausea, insomnia, nervous irritability, weakness, muscle and joint pains, headache and dizziness. Chromates are listed by IARC and NTP. Although studies have associated exposure to Chromium VI compounds with an increased risk of respiratory cancer, available evidence indicates that Lead Chromate (Chrome Yellow, Molybdate Orange) DOES NOT present this hazard.

Carbon Black is classified by IARC as possibly carcinogenic to humans (group 2B) based on experimental animal data, however, there is insufficient evidence in humans for its carcinogenicity.

Limited evidence exists linking certain Nickel compounds to cancer in animals and possibly humans, however no direct evidence exists that Nickel Antimony Titanate is carcinogenic.

Persons sensitive to isocyanates will experience increased allergic reaction on repeated exposure.

Prolonged overexposure to solvent ingredients may cause adverse effects to the liver, urinary, blood forming, cardiovascular, and reproductive systems.

Methyl Ethyl Ketone may increase the nervous system effects of other solvents.

Rats exposed to titanium dioxide dust at 250 mg/m³ developed lung cancer, however, such exposure levels are not attainable in the workplace.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Section 12 — Ecological Information

No data available.

Section 13 — Disposal Considerations

WASTE DISPOSAL METHOD - Waste from these products may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers. Waste from products containing Lead, Chromium, or Methyl Ethyl Ketone may also require extractability testing. Incinerate in approved facility. Do not incinerate closed container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

Section 14 — Transport Information

No data available.

Section 15 — Regulatory Information

CALIFORNIA PROPOSITION 65 - WARNING: These products, except DH654 Hardener, contain chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

TSCA CERTIFICATION - All chemicals are listed, or are exempt from listing, on the TSCA Inventory.

Section 16 — Other Information

These products have been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

The above information pertains to these products as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to these products may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.



TECHNICAL DATA SHEET

DESCRIPTION



DIMENSION™ National Rule Compliant Acrylic Enamel is a low cost alternative acrylic enamel line with thousands of similar color matches to the original vehicle's color. DIMENSION™ National Rule Compliant Acrylic Enamel is primarily an overall refinish line.

PHYSICAL DATA

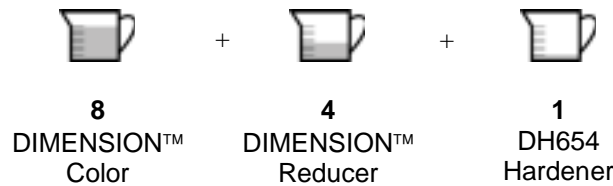
Pot Life at 70°F:	2 hours	DA666 Fisheye Eliminator	¼ to 1 oz/RTS qt.
VOC Ready to Spray:	5.0 lbs/gal	DA664 Retarder	1 capful/RTS qt.



SUBSTRATES

Properly prepared and cleaned OE painted surfaces and Western® sealers and surfacers.

MIXING



Reducer Selection Chart

DR631	50°-65°F
DR632	60°-75°F
DR633	70°-80°F
DR634	75°-90°F
DR635	85°F and above
DR636*	100°F and above

*DR636 is formulated for use in extreme tropical and desert conditions.

NOTE: Ranges based on single panel. For spot repairs, move one solvent faster. For multiple panels move one solvent slower.

APPLICATION



1. Apply 2-3 coats to hiding.
2. Apply a mist coat to even out metallics.
3. 10-15 minutes flash between coats.

HVLP	8 - 10 psi
Siphon Feed	50 - 60 psi

DRYING



Air Dry Times at 70°F

Dust Free	60 minutes
Tape Free	12 hours
To Deliver	Overnight or 4 hours after force dry

Force Dry at 140°F 30 minutes

No recommendation to apply clearcoat at this time.

BUFFING



If necessary, sand with 1500 or finer grit paper after 24 hours and polish. Buff with the appropriate compound after 48 hours. Buffing is easiest when done within the first 72 hours following application. Take care in sanding and polishing single-stage metallics. Aggressive sanding can distort metal appearance. Sanding should be limited to de-nibbing imperfections with 2000 to 2500 grit sandpaper.



Material Safety Data Sheet

Sherwin-Williams Automotive Finishes Corp.
101 Prospect Ave. N.W.
Cleveland, OH 44115

Emergency telephone number
Information telephone number
Date of preparation

(216) 566-2917
(216) 566-2902
June 2, 2005

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GENESIS® M Low HAPs, Low VOC Polyurethane

G2

CAS No.	— Section 2 — Hazardous Ingredients (percent by weight)	ACGIH	OSHA	Units	LD50	LC50	Vapor Pressure mm	Non-Lead Colors	Lead-Containing	GH1092 2.8 Hardener	GH1093 3.5 Hardener
		TLV <STEL>	PEL <STEL>		(Rat-Oral) mg/kg	(Rat) ppm/4hr.		G2 - LF (Pb)	G2 - LL (Pb)		
98-56-6	p-Chlorobenzotrifluoride	NAv	NAv		NAv	NAv	5.3			43	
67-64-1	Acetone	500 <750>	1000	ppm	5800	NAv	180.0	14 - 22	14 - 22		
107-87-9	Methyl n-Propyl Ketone	200 <250>	200 <250>	ppm	1600	NAv	27.8	0 - 5	0 - 5		
110-43-0	Methyl n-Amyl Ketone	50	100	ppm	1670	NAv	2.1	5 - 10	5 - 10		3
590-01-2	n-Butyl Propionate	NAv	NAv		NAv	NAv	3.4	2 - 6	2 - 6		
763-69-9	Ethyl 3-Ethoxypropionate	NAv	NAv		5000	NAv	1.1				6
123-86-4	n-Butyl Acetate	150 <200>	150 <200>	ppm	13100	2000	10.0	5 - 15	5 - 15		17
112-07-2 §	2-Butoxyethyl Acetate	NAv	NAv		2400	NAv	1.0				6
108-65-6	1-Methoxy-2-Propanol Acetate	NAv	NAv		8500	NAv	1.8	0.5 - 1	0.5 - 1		1
822-06-0	Hexamethylene Diisocyanate (max.)	0.005		ppm	738	NAv	0.1			0.1	0.1
94-96-2	2-Ethyl-1,3-hexanediol	NAv	NAv		1400	NAv		0 - 2	0 - 2		
123-54-6	2,4-Pentanedione	NAv	NAv		550	NAv	7.0	0 - 2	0 - 2		
28182-81-2	Hexamethylene Diisocyanate Polymer.	0.5 C 1		mg/m3 Supplier Limit	NAv	NAv				57	66
13463-67-7	Titanium Dioxide	10	10[5]	mg/m3 as Dust [Resp. Fraction]	NAv	NAv		0 - 34	0 - 34		
1333-86-4	Carbon Black	3.5	3.5	mg/m3	NAv	NAv		0 - 1	0 - 1		
1344-37-2 12656-85-8	Lead Chromate Molybdate Orange	0.05	0.05	mg/m3	NAv	NAv			< 28		
8007-18-9	Nickel Antimony Titanate	0.5	0.5	mg/m3	500	NAv		maximum 33	maximum 33		
	§ Nickel [% Ni] - maximum							33 [1.0]	33 [1.0]		
	§ Antimony [% Sb] - maximum							33 [3.5]	33 [3.5]		
	§ Lead [% Pb] - maximum								28 [15.9]		
	§ Chromium [% Cr VI] - maximum								28 [3.4]		
	Weight per Gallon (lbs.)							8 - 11	8 - 11	10.2	8.8
	VOC (Volatile Organic Compounds) Emitted - lbs./gal.							2.0 - 2.4	2.0 - 2.4	0.0	2.9
	VOC Less Water & Federally Exempt Solvents - lbs./gal.							2.7 - 3.1	2.7 - 3.1	0.0	2.9
	Flash Point (°F)							45 - 60	45 - 60	39	81
	DOL Storage Category							1B	1B	1C	1C
	HMIS (NFPA) Rating (health - flammability - reactivity)							2* - 3 - 0	2* - 3 - 0	3* - 3 - 1	3* - 3 - 1

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§ Ingredient subject to the reporting requirements of the Superfund Amendments and Reauthorization Act (SARA) Section 313, 40 CFR 372.65 C

Section 3 — Hazards Identification

ROUTES OF EXPOSURE -
INHALATION of vapor or spray mist.
EYE or **SKIN** contact with the product, vapor or spray mist.
EFFECTS OF OVEREXPOSURE -
EYES: Irritation.
SKIN: Prolonged or repeated exposure may cause irritation.
INHALATION: Irritation of the upper respiratory system.
 May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death. Certain colors contain Lead (See TABLE and PRODUCT LABEL). Acute occupational exposure to Lead is uncommon, but results in symptoms similar to chronic overexposure described below.
SIGNS AND SYMPTOMS OF OVEREXPOSURE - Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists. Redness and itching or burning sensation may indicate eye or excessive skin exposure.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE - May cause allergic respiratory and/or skin reaction in susceptible persons or sensitization. This effect may be delayed several hours after exposure.
CANCER INFORMATION - For complete discussion of toxicology data refer to Section 11.

Section 4 — First Aid Measures

If **INHALED:** If any breathing problems occur during use, LEAVE THE AREA and get fresh air. If problems remain or occur later, IMMEDIATELY get medical attention.
 If on **SKIN:** Wash affected area thoroughly with soap and water. Remove contaminated clothing and launder before re-use.
 If in **EYES:** Flush eyes with large amounts of water for 15 minutes. Get medical attention.
 If **SWALLOWED:** Do not induce vomiting. Get medical attention immediately.

Section 5 — Fire Fighting Measures

FLASH POINT	<i>LEL</i>	<i>UEL</i>
See TABLE	0.5	13.1

FLAMMABILITY CLASSIFICATION - RED LABEL, Flammable Liquid, Flash below 100 °F
EXTINGUISHING MEDIA - Carbon Dioxide, Dry Chemical, Foam
UNUSUAL FIRE AND EXPLOSION HAZARDS - Closed containers may explode when exposed to extreme heat. Application to hot surfaces requires special precautions. During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.
SPECIAL FIRE FIGHTING PROCEDURES - Full protective equipment including self-contained breathing apparatus should be used. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion if exposed to extreme heat.

Section 6 — Accidental Release Measures

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED - Remove all sources of ignition. Ventilate the area. Remove with inert absorbent.
 If hardener is spilled, all personnel in the area should be protected as in Section 8. Cover spill with absorbent material. Deactivate spilled material with a 10% ammonium hydroxide solution (household ammonia). After 10 minutes, collect in open containers and add more ammonia. Cover loosely. Wash spill area with soap and water.

Section 7 — Handling and Storage

STORAGE CATEGORY - See TABLE
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING - Keep away from heat, sparks, and open flame. During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition. Consult NFPA Code. Use approved Bonding and Grounding procedures. Keep container closed when not in use. Transfer only to approved containers with complete and appropriate labeling. Do not take internally. Keep out of the reach of children.

Section 8 — Exposure Controls/Personal Protection

PRECAUTIONS TO BE TAKEN IN USE - NO PERSON SHOULD USE THESE PRODUCTS, OR BE IN THE AREA WHERE THESE PRODUCTS ARE BEING USED, IF THEY HAVE CHRONIC (LONG-TERM) LUNG OR BREATHING PROBLEMS OR IF THEY EVER HAD A REACTION TO ISOCYANATES.
 Certain colors contain Lead (See TABLE and PRODUCT LABEL). Before initial use of Lead-containing colors, consult OSHA's Standard for Occupational Exposure to Lead (29 CFR 1910.1025).
 Use only with adequate ventilation. Avoid contact with skin and eyes. Avoid breathing vapor and spray mist. Wash hands after using.
 These coatings may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg./m3 (total dust), 3 mg./m3 (respirable fraction), OSHA PEL 15 mg./m3 (total dust), 5 mg./m3 (respirable fraction).
VENTILATION - Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.
RESPIRATORY PROTECTION - Where overspray is present, a positive pressure air supplied respirator (TC19C NIOSH/MSHA approved) should be worn. If unavailable, a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2 may be effective. Follow respirator manufacturer's directions for use. Wear the respirator for the whole time of spraying and until all vapors and mists are gone. NO PERSONS SHOULD BE ALLOWED IN THE AREA WHERE THIS PRODUCT IS BEING USED UNLESS EQUIPPED WITH THE SAME RESPIRATOR PROTECTION RECOMMENDED FOR THE PAINTERS.
 When sanding, wirebrushing, abrading, burning, or welding the dried film, wear a particulate respirator approved by NIOSH/MSHA for protection against non-volatile materials in Section 2.

PROTECTIVE GLOVES - Wear gloves recommended by glove supplier for protection against materials in Section 2.
EYE PROTECTION - Wear safety spectacles with unperforated sideshields.
OTHER PROTECTIVE EQUIPMENT - Use barrier cream on exposed skin.
OTHER PRECAUTIONS - Certain colors contain Lead (See TABLE and PRODUCT LABEL). Do not apply Lead-containing colors on toys or other children's articles, furniture, or any interior surface of a dwelling or facility which may be occupied or used by children. Do not apply on any exterior surface of dwelling units, such as window sills, porches, stairs, or railings to which children may be commonly exposed.
 These products must be mixed with other components before use. Before opening the packages, READ AND FOLLOW WARNING LABELS ON ALL COMPONENTS.
 Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

Section 9 — Physical and Chemical Properties

PRODUCT WEIGHT	See TABLE	EVAPORATION RATE	Slower than ether
SPECIFIC GRAVITY	0.96 - 1.32	VAPOR DENSITY	Heavier than air
BOILING POINT	132 - 419 °F	MELTING POINT	Not Available
VOLATILE VOLUME	39 - 60 %	SOLUBILITY IN WATER	Not Available
PAINT SAFE® Code	K	PHOTOCHEMICALLY REACTIVE	No

Section 10 — Stability and Reactivity

STABILITY - Stable
CONDITIONS TO AVOID - None known.
INCOMPATIBILITY - Metallics contain Aluminum. Contamination with Water, Acids, or Alkalis can cause evolution of hydrogen, which may result in dangerously increased pressures in closed containers.
 Contamination of hardener with Water, Alcohols, Amines, and other compounds which react with isocyanates, may result in dangerous pressure in, and possible bursting of, closed containers.
HAZARDOUS DECOMPOSITION PRODUCTS
 By fire: Carbon Dioxide, Carbon Monoxide, Oxides of Metals in Section 2
HAZARDOUS POLYMERIZATION - Will not occur

Section 11 — Toxicological Information

CHRONIC Health Hazards - Certain Colors contain Lead and/or Chromate (See TABLE and PRODUCT LABEL). Chronic overexposure to Lead may result in damage to the blood-forming, nervous, urinary, and reproductive systems (including embryotoxic effects). Symptoms include abdominal discomfort or pain, constipation, loss of appetite, metallic taste, nausea, insomnia, nervous irritability, weakness, muscle and joint pains, headache and dizziness. Chromates are listed by IARC and NTP. Although studies have associated exposure to Chromium VI compounds with an increased risk of respiratory cancer, available evidence indicates that Lead Chromate (Chrome Yellow, Molybdate Orange) DOES NOT present this hazard.
 Carbon Black is classified by IARC as possibly carcinogenic to humans (group 2B) based on experimental animal data, however, there is insufficient evidence in humans for its carcinogenicity.
 Limited evidence exists linking certain Nickel compounds to cancer in animals and possibly humans, however no direct evidence exists that Nickel Antimony Titanate is carcinogenic.
 Prolonged overexposure to solvent ingredients in Section 2 may cause adverse effects to the liver, urinary, and blood forming systems.
 Persons sensitive to isocyanates will experience increased allergic reaction on repeated exposure.
 2-Ethyl-1,3-hexanediol is considered an animal teratogen. It has been shown to cause birth defects and reproductive disorders in laboratory animals. There is no evidence to indicate it causes birth defects in humans.
 Rats exposed to titanium dioxide dust at 250 mg/m3 developed lung cancer, however, such exposure levels are not attainable in the workplace.
 Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Section 12 — Ecological Information - No data available.

Section 13 — Disposal Considerations

WASTE DISPOSAL METHOD - Waste from these products may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers. Waste from products containing Lead or Chromium must also be tested for extractability. Incinerate all products in approved facility. Do not incinerate closed container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

Section 14 — Transport Information - No data available.

Section 15 — Regulatory Information

CALIFORNIA PROPOSITION 65 - WARNING: These products, except for GH1092 and GH1093 Hardeners, contain chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
TSCA CERTIFICATION - All chemicals in these products are listed, or exempt from listing, on the TSCA Inventory.

Section 16 — Other Information

These products have been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

The above information pertains to these products as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to these products may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.



SHERWIN-WILLIAMS®

Automotive Finishes

GENESIS® M

Low HAP's, Low VOC Polyurethane

Product Data Sheet

G2 Series

PRODUCT DESCRIPTION

Genesis® M is a high performance, low VOC, low HAP's, two component acrylic polyurethane topcoat. Genesis® M is an easy-to-use, high gloss, extremely durable, chemical and solvent resistant air-dry and force-dry acrylic polyurethane topcoat that is available in solid colors only. It is an extremely versatile product and is recommended for use on airline ground support equipment, beverage trucks, concrete trucks, DOT equipment, waste trucks, public transportation equipment and other applications. Additionally, Genesis® M is specifically designed for manufacturers requiring excellent hiding and sag-resistance and available in 3.5 and 2.8 pounds per gallon VOC.

Available in many Lead and Chromate-Free solid color intermix formulas including fleet specified colors.

Conveniently packaged 3:1 for a production friendly manufacturing environment.

NOTE: Genesis® M has many lead and chromate formulas available for those customers not in environmentally restricted areas. Please refer to product intermix labels or MSDS for lead/chromate information.

TECHNICAL DATA

<ul style="list-style-type: none"> • Mixing ratio by volume 3:1 • Max VOC with GH1093 @ 3:1 VOC Total 3.5 lbs/gal VOC less exempt 3.0 lbs/gal with GH1092 @ 3:1 VOC Total 3.8 lbs/gal VOC less exempt 2.3 lbs/gal <0.15 lbs/gal RTS • HAP's • Viscosity (sprayable) Gardner #2 Zahn Cup (ISO calibrated) 18-25 sec • Flash point PMCC (white) 40°F • Coverage @ 1 mil dry (white) 870 sq. ft./gallon • Recommended dry film thickness (2 coats) 2.0-2.5 mils • Volume Solids (white) 53% • Gloss 60° 92 20° 85 • DOI Excellent • Pencil Hardness at 48 hours H at 2 weeks 2H 	<ul style="list-style-type: none"> • Performance after one-week air dry <ul style="list-style-type: none"> - Impact resistance (80 inch-pounds) Direct 120 Reverse 60 - Flexibility (1/8" conical mandrel) Pass - Solvent resistance (10 double rubs) (MEK/Xylene/Gasoline/Diesel/Oil) No effect - Chemical resistance (24 hr. covered contact) <ul style="list-style-type: none"> 10% Hydrochloric acid No effect 10% Sulfuric acid No effect 10% Sodium hydroxide No effect Gasoline No effect Motor Oil No Effect Antifreeze No effect - Salt spray resistance -500 hrs* No effect - Humidity resistance - 250 hours* No effect <li style="padding-left: 40px;">* Over properly treated and primed metal • Shelf Life Unlimited
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SUITABLE PRIMERS

- PRIME-SHIELD™ Urethane Primers, E2A820/R822/W823
- 3.5 VOC DTM Epoxy Primers, E2B931/W932/A933
- 2.1 VOC DTM Epoxy Primers, PSE2110/2120/2130
- DTM Urethane Primers, E2W817/B818/A819
- Dimension 3.5 VOC 1K Enamel Sealer, DS675/676/677/678/679
- SPECTRAPRIME™ Color Surfacer, P30A
- SPECTRASEAL™ Sealer System P30A
- ULTRA-FILL® HS DTM, NP-75
- ELEMENT-SHIELD™ Urethane Primer, E2W840

MIXING

1. Stir or shake Genesis® M Low VOC thoroughly before mixing.
2. Mix by volume, **3 parts Genesis® M Color with 1 part Genesis® M Hardener GH1093 for 3.5 VOC or GH1092 for 2.8 VOC.** Stir thoroughly and strain before use. Pot life: 2 Hours @ 70°F.
- Up to 10% Genesis® Reducer GR1088 or VS100 may be added based on sprayable volume to customize application properties without affecting VOC. Pot life: 3 hours @ 70°F.
3. One of the following reducers are included in the intermix formula.

Reducer	Temperature Range
VS-100	50-75°F
GR-1088	55-80°F
GR-1070	50-75°F
GR-1073	75-85°F
GR-1086	85°F+

Additional reducer may be added while maintaining a 3.5 VOC compliance by using VS100 or GR1088 exempt solvents.

4. To speed cure time, add up to 3 ounces of Genesis® Accelerator GA-1097 per sprayable gallon or up to 2 ounces GA-1098 Accelerator per sprayable gallon.

Refer to **Drying Schedule** section for details about cure times with Genesis® Accelerators GA-1097 and GA-1098.

GENESIS® M

Low HAPs, Low VOC Polyurethane

G2 Series

APPLICATION

Overall

1. Adjust air pressure at the gun to 55-65 psi for siphon, gravity or pressure feed (adjust pot pressure to 5-10 psi for 8-15 fluid ounces per minute delivery).
2. For Pressure/Siphon feed, apply 2 medium coats at a gun distance of 8-10 inches. Spray to hiding. For HVLP, apply 1 full wet coat with 50% overlap, applying the second coat in a cross-coat method. Recommended dry film thickness is 2.0-2.5 mils.
3. Clean spray gun immediately after use with Gun and Equipment Cleaner, R7K5200.

Repair

1. Repair process must be performed using a two-gun method. Apply Genesis® M over the repaired area carrying out the wet edge just beyond the repair.
2. Allow Genesis® M to flash per data sheet recommendations. Apply a second coat to achieve proper hiding and blending of the color into the repaired area and lightly feather the outer edge.
3. Immediately after feathering the final coat, melt the feathered edge with a wet-on-wet application using Ure-Blend™ BS10 1K Urethane Blending Solvent.

Buffing Blend Area

- Allow finish to cure.
- If sanding is needed for dirt or smoothing the blend area, use 2000 to 2500 grit wet paper.
- Buff blend area by machine with a quality micro-finishing compound followed by machine glaze. Hand glaze if needed.

Equipment

<u>Gun Type</u>	<u>Nozzle</u>	<u>Air Pressure</u>
Conventional Siphon Feed	1.3-1.5 mm	50-55 psi
Conventional Gravity Feed	1.3-1.5 mm	50-55 psi
Conventional Pressure Feed	0.8-1.1 mm at 8-12 oz/min	50-55 psi
HVLP Gravity Feed	1.3-1.5 mm	10 psi at cap
HVLP Pressure Feed	0.8-1.1 mm at 8-12 oz/min	10 psi at cap
Reduced Pressure Gravity	1.3-1.5 mm	follow gun manufacturer recommendations
Reduced Pressure Pressure	0.8-1.1 mm	follow gun manufacturer recommendations

DRYING SCHEDULE

Dry times are based on the recommended dry film thickness of 2.0 - 2.5 mils; thicker films will extend drying times.

Air dry times @ 75°F and 50% Relative Humidity:

	<u>Unaccelerated</u>	<u>Accelerated</u> (3 oz. GA-1097 or 1 oz. GA-1098 per sprayable gal)	<u>Accelerated</u> 2 oz. GA-1098 per sprayable gal)
- Dust free	2-3 hours	1 hour	40 minutes
- Tack free	6-7 hours	3 ½ hours	2 hours
- Tape free	24 hours	3 ½ hours	2 ½ hours
- Nib Sand	24+ hours	2 ½ hours	2 hours

Force dry times:

<u>Temperature</u>	<u>Tape Free</u> <u>Unaccelerated</u>	<u>Tape Free with 2 oz</u> <u>GA-1097 per sprayable Gallon</u>	<u>Tape Free with 2 oz.</u> <u>GA-1098 per sprayable gallon</u>
140°F	80-120 minutes	30 minutes	20 minutes
160°F	60-80 minutes	---	---
180°F	45-60 minutes	---	---

NOTES

- Decals may be applied after air-drying 72 hours at 75°F. Lower temperatures, heavy film thickness, poor air movement, thick decals, foil-based decals, etc., will extend the 72 hour dry time before decal may be applied.
- Infra-Red Recommendation: 10 min. on low for flash and 20 min. on high or until firm. Lamp should be no closer than 36 inches.
- May be recoated with itself anytime. Must be scuffed or sanded after 24 hours air dry when using accelerator.

PRODUCT AT-A-GLANCE

GENESIS® M Low HAP's, Low VOC Polyurethane G2 Series

PRODUCT USE

- Ideal for OEM, Fleet, Truck, Special Vehicle finishing.
- Provides a high gloss, extremely durable, chemical/solvent resistant finish.
- Resists marring, stone chips, harsh environments

SUITABLE SUBSTRATES

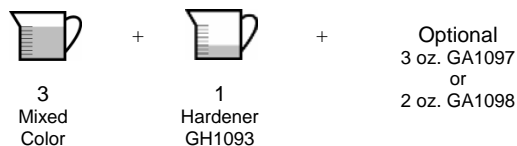
- PRIME-SHIELD™ Urethane Primers
- 3.5 VOC DTM Epoxy Primers
- 2.1 VOC DTM Epoxy Primers
- DTM Urethane Primers
- ULTRA-FILL II® Primer-Sealers
- ULTRA-FILL II® Primer-Surfacers
- ELEMENT SHIELD Urethane Primer E2W840

SURFACE PREPARATION

- **Wash** surfaces with a mild detergent in hot water. Rinse well and wipe dry with a clean cloth.
- **Solvent clean** with Low VOC Surface Cleaner W4K157 and wipe dry with a clean cloth.
- **Sand** all areas to be refinished and featheredge all broken film areas.
- **Treat** bare metal with a Sherwin-Williams conditioner or etching primer. Check local regulations to verify etching primers are VOC exempt.
- **Prime** with Sherwin-Williams primer.

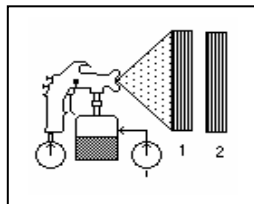
MIXING

- Stir or shake Genesis® M Low VOC color thoroughly before mixing.
- Mix by volume 3 parts of Genesis® 3.5 Low VOC Color with 1 part hardener GH1093.
- Pot life: 2 hours



APPLICATION

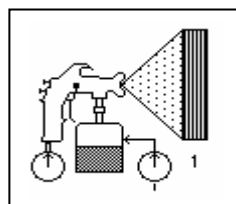
Pressure Feed/Siphon Feed*
Apply 2 medium coats.
Allow each to become hand slick



Air pressure:
50-55 psi
5-10 psi pot pressure

Fluid delivery:
8-12 oz/min.

HVLP*
Apply 1 full wet coat
With 50% overlap.



10 psi
at the cap

Fluid delivery:
8-12 oz/min.

*See APPLICATION on previous page for complete equipment recommendation.

RECOAT

- Decals may be applied after 72 hours. Lower temperatures, heavy film thickness, poor air movement, thick decals, foil based decals, etc., will extend the dry time before the decal may be applied.
- May be recoated at any time with itself. Must be scuffed or sanded after 24 hours.

NOTES

- To speed tape time, add up to 3 ounces Genesis® Accelerator GA-1097 per sprayable gallon or up to 2 ounces GA-1098 Accelerator per sprayable gallon.
- Recommended minimum dry film thickness is 2.0-2.5 mils.

PERSONAL PROTECTION

- For use by trained professionals only.
- Read label, directions, and MSDS before use.
- Use appropriate Personal Protective Equipment while mixing and spraying