— SECTION I —
PRODUCT IDENTIFICATION

MATERIAL SAFETY DATA SHEET

THE MARTIN-SENOUR CO.
101 PROSPECT AVE. N.W.
CLEVELAND, OH 44115

Automotive Finishes

EMERGENCY TELEPHONE NO. (216) 566-2917
INFORMATION TELEPHONE NO. (216) 566-2902
DATE OF PREPARATION 2-JAN-96

MSE™ Enamel System

MSE/

						73- series		Reducers		Hardeners	
— SECTION II — CAS No.	HAZARDOUS INGREDIENT (percent by weight)	ACGIH TLV <STEL>	OSHA PEL <STEL>	Units	Vapor Pressure (mm Hg)	MSE-LD Lead-Drier Containing Colors	MSE-LL Lead Chromate Containing Colors	MSE-350 Standard	MSE-360 Hot Weather	MSE-375 Hardener	MSE-375V VOC Hardener
64742-89-8	Lt. Aliphatic HC Solvent	100	100	PPM	53.0			31			
64742-89-8	V. M. & P. Naphtha	300	300 <400>	PPM	12.0	4-16	4-16	7	38		
64742-88-7	Mineral Spirits	100	100	PPM	2.0	6-24	6-24		7		
108-88-3 §	Toluene	50	100 <150>	PPM (Skin)	22.0			16	8		
100-41-4 §	Ethylbenzene	100 <125>	100 <125>	PPM	7.1	0.3-4	0.3-4			9	2
1330-20-7 §	Xylene	100 <150>	100 <150>	PPM	5.9	2-24	2-24	3	1	49	13
64742-95-6	Light Aromatic Hydrocarbons	Not Established			3.8	3-4	3			2	4
108-67-8	1,3,5-Trimethylbenzene	25	25	PPM	10.0	4-5	4		1	2	5
95-63-6 §	1,2,4-Trimethylbenzene	25	25	PPM	2.0	6-7	6		2	3	7
67-56-1 §	Methanol	200 <250>	200 <250>	PPM (Skin)	92.0			3	3		
111-76-2 §	2-Butoxyethanol	25	25	PPM (Skin)	0.6				6		
67-64-1	Acetone	750 <1000>	760 <1000>	PPM	180.0			36	31		
108-10-1 §	Methyl Isobutyl Ketone	50 <75>	50 <75>	PPM	16.0			3			
123-86-4	n-Butyl Acetate	150 <200>	150 <200>	PPM	10.0					4	9
108-65-6	1-Methoxy-2-Propanol Acetate	Not Established			18				2		
Unknown	Isophorone Diisocyanate Polymer	Not Established								30	60
4098-71-9	Isophorone Diisocyanate Monomer	0.005		PPM (Skin)						0.3	0.4
13463-67-7	Titanium Dioxide	10	10[5]	Mg/M3 [Resp. as Dust Fraction]		0-30	0-30				
1344-37-2 12656-85-8	Lead Chromate Molybdate Orange	0.05	0.05	Mg/M3			<28				
§	Lead compound (maximum) [% Lead]					0.8[0.3]	28[18.8]				
§	Chromium compound (maximum) [% Chromium]						28[4.0]				
	Weight per Gallon (lbs.)					7.6-9.9	7.6-9.9	6.46	6.56	7.79	8.54
	VOC - Total Volatile Organic Compounds (lbs./gal.)					4.0-4.4	4.0-4.4	6.45	6.55	5.43	3.42
	VOC - Less Water (lbs./gal.)					4.0-4.4	4.0-4.4	6.45	6.55	5.43	3.42
	Photochemically Reactive					Yes	Yes	No	No	Yes	Yes
	Flash Point (°F) / DOL Storage Category					72 / 1B	72 / 1B	4 / 1B	3 / 1B	80 / 1C	80 / 1C
	HMIS® (NFPA) Rating / PAINT-SAFE® Code					3* 3 0 / J3	3* 3 0 / J3	3 3 0 / J3	3 3 0 / J3	3* 3 0 / K	3* 3 0 / K

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

Section III — PHYSICAL DATA

PRODUCT WEIGHT –	See TABLE	*EVAPORATION RATE* –	Slower than Ether
SPECIFIC GRAVITY –	0.76-1.2	*VAPOR DENSITY* –	Heavier than Air
BOILING RANGE –	132-195 °F	*MELTING POINT* –	N.A.
VOLATILE VOLUME –	48-80 %	*SOLUBILITY IN WATER* –	N.A.

Section IV -- FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY CLASSIFICATION *FLASH POINT* See TABLE *LEL* 0.7 *UEL* 36.5
RED LABEL - Flammable. Flash below 100 °F
EXTINGUISHING MEDIA
Carbon Dioxide, Dry Chemical, Foam
UNUSUAL FIRE AND EXPLOSION HAZARDS
Keep containers tightly closed. Isolate from heat, electrical equipment, sparks, and open flame. 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 when exposed to extreme heat.

Section V — HEALTH HAZARD DATA

ROUTES OF EXPOSURE
Exposure may be by INHALATION and/or SKIN or EYE contact, depending on conditions of use.
ACUTE Health Hazards
EFFECTS OF OVEREXPOSURE
Irritation of eyes, skin and 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
MSE™ Hardener may cause allergic respiratory and/or skin reaction in susceptible persons or sensitization. This effect may be delayed several hours after exposure.
EMERGENCY AND FIRST AID PROCEDURES
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: Get medical attention.
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.
Prolonged overexposure to solvent ingredients in Section II may cause adverse effects to the liver, urinary, blood forming, cardio-vascular, and reproductive systems.
Persons sensitive to isocyanates will experience increased allergic reaction on repeated exposure to isocyanates in MSE™ Hardeners.
Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Section VI — REACTIVITY DATA

STABILITY – Stable
CONDITIONS TO AVOID – None known.
INCOMPATIBILITY
Contamination of MSE™ hardeners 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 II
HAZARDOUS POLYMERIZATION – Will Not Occur

Section VII — SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Remove all sources of ignition. Ventilate and remove with inert absorbent.
If MSE™ Hardeners are spilled, all personnel in the area should be protected as in Section VIII. 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.

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 RCRA hazardous waste numbers. Waste from products containing Lead or Chromium must also be tested for extractability.
Incinerate in approved facility. Do not incinerate closed container. Dispose of in accordance with Federal, State, and Local regulations regarding pollution.

Section VIII -- PROTECTION INFORMATION

PRECAUTIONS TO BE TAKEN IN USE
Before initial use of these products, consult OSHA's Standard for Occupational Exposure to Lead (29 CFR 1910.1025).
NO PERSONS SHOULD USE THE ENAMEL HARDENERS, OR BE IN THE AREA WHERE THE HARDENERS ARE BEING USED, IF THEY HAVE (CHRONIC (LONG-TERM) LUNG OR BREATHING PROBLEMS OR IF THEY EVER HAD A REACTION TO ISOCYANATES.
Use all products only with adequate ventilation. Avoid breathing vapor and spray mist. Avoid contact with skin and eyes. Wash hands after using.
These coatings may contain materials classified as nuisance particulates (listed "as Dust" in Section II) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section II, the applicable limits for nuisance dusts are ACGIH TLV 10 mg./m3 (total dust), 3 mg./m3 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 II is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.
RESPIRATORY PROTECTION
IF MSE™ HARDENERS ARE USED -- Where overspray is present a positive pressure air supplied respirator (T.C.-19C 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 II 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.
ALL OTHER PRODUCTS -- If personal exposure cannot be controlled below applicable limits by ventilation wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section II.
When sanding or abrading the dried film, wear a particulate respirator approved by NIOSH/MSHA for protection against non-volatile materials in Section II.
PROTECTIVE CLOVES
Wear gloves which are recommended by glove supplier for protection against materials in Section II.
EYE PROTECTION
Wear safety spectacles with unperforated sideshields.
OTHER PROTECTIVE EQUIPMENT
Use barrier cream on exposed skin when using MSE™ HARDENER.

Section IX — PRECAUTIONS

DOT 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.
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 interior surface of dwelling units, such as window sills, porches, stairs, or railings to which children may be commonly exposed.
These products may 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 X -- OTHER REGULATORY INFORMATION

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

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 products. 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.