

# MATERIAL SAFETY DATA SHEET

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Automotive Finishes

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## MSU™ Urethane System

MSU™

CAS No.	HAZARDOUS INGREDIENT (percent by weight)	ACGM TLV <STEL>	OSHA PEL <STEL>	Units	Vapor Pressure (mm Hg)	42-series		Reducers			
						LEAD FREE	CONTAINS LEAD	MSU-450 Standard	MSU-460 Hot Weather	MSU-475 Hardener	
95-83-6	1,2,4-Trimethylbenzene	25	25	PPM	2.0	1	1				
100-41-4	Ethylbenzene	100	100	PPM	7.1						7
130-20-7	Xylene	<125> 100	<125> 100	PPM	5.9						40
123-86-4	n-Butyl Acetate	<150> 150	<150> 150	PPM	10.0	33-51	33-51	87	55		8
110-19-0	Isobutyl Acetate	150	150	PPM	12.5	5-10	5-10				
112-07-2	2-Butoxyethyl Acetate	30		PPM	1.0	1	1	2	28		
108-65-6	1-Methoxy-2-Propanol Acetate	Not Established			1.8	1-5	1-5	11	16		
Proprietary	Hexamethylene Diisocyanate Polymer	0.5 <1.0>		Mg/M3 Special Limit							45
922-06-0	Hexamethylene Diisocyanate (Max.)	0.005		PPM	0.05	0-25	0-25				0.7
1343-67-7	Titanium Dioxide	10	10[5]	Mg/M3 as Dust Respd. Fraction							
1344-37-2	Lead Chromate	0.05	0.05	Mg/M3			<30				
12658-35-8	Molybdate Orange										
§ Lead compound maximum [% Lead]							30[18.3]				
§ Chromium compound maximum [% Chromium]							30[3.4]				
Weight per Gallon (lbs.)						6.2-10.8	8.2-10.8	7.39	7.60	8.07	
VOC - Total Volatile Organic Compound (lbs./gal.)						4.5-4.9	4.5-4.9	7.39	7.60	4.46	
VOC - Less Water and exempt Solvents (lbs./gal.)						4.5-4.9	4.5-4.9	7.39	7.60	4.46	
Flash Point (°F)						72	72	72	72	77	
DOL Storage Category						1B	1B	1B	1B	1C	
HMIS® (NFPA) Rating (Health - flammability - reactivity)						2-3-0	2-3-0	2-3-0	2-3-0	2-3-1	
PAINT - SAFE® Personal Protection						K	K	K	K	K	

§ ingredient subject to the reporting requirements of the Superfund Amendments and Reauthorization Act (SARA) Section 313.40 CFR 372.66 C

# MSU™ Urethane System

MSU/™

## Section III - PHYSICAL DATA

PROJECT WEIGHT - See TAB. B	EVAPORATION RATE - Slower than Ethyl Acrylate
SPECIFIC GRAVITY - 0.9 - 1.0	VAPOR DENSITY - Heavier than Air
BOILING RANGE - 250 - 295 °F	MELTING POINT - N.A.
VOLATILE SOLIDS - 55 - 60 %	STABILITY IN WATER - N.A.

## Section IV - FIRE AND EXPLOSION HAZARD DATA

**FLAMMABILITY CLASSIFICATION** - FLASH POINT: See TABLE LEL: 8.5 UEL: 1.1  
**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, dry hoses are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible explosion or explosion when exposed to extreme heat.

## Section V - HEALTH HAZARD DATA

**ROCKETS OF EXPOSURE** - Exposure may be by INHALATION and/or SKIN OR BY CONTACT. Depending on conditions of use, Alcohols and Acetates can be absorbed through the skin. To minimize exposure, follow recommendations for proper use, ventilation, and personal protective equipment.  
**ACUTE Health Hazards** -  
**ASPECTS 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 TAB. B and PROJECT 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.  
**EMERGENCY AND FIRST AID PROCEDURES** - If inhaled: If any breathing problems occur during use, leave the area and get fresh air. If on skin: Wash affected areas thoroughly with soap and water. Remove contaminated clothing and shoes. Remove contact lenses and spraying and use. If in eyes: Flush eyes with large amounts of water for 15 minutes. See medical attention if symptoms persist. Get medical attention.  
**CHRONIC Health Hazards** -  
**Certain colors contain lead and/or Chromate (see TABLE and PROJECT 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 ITP.** Although studies have associated exposure to Chromium VI compounds with an increased risk of respiratory cancer, available evidence indicates that lead Chromate (chromic yellow, Molybdate Chromate) does not present this hazard. Prolonged overexposure to solvent ingredients in Section II may cause adverse effects to the liver, urinary, blood forming, and reproductive systems.  
**Persons sensitive to isocyanates will experience increased allergic reaction on repeated exposure.**  
**Rats exposed to titanium dioxide dust at 250 mg./kg. developed lung cancer, however, such exposure levels are not attainable in the workplace.**  
**Reporters have associated repeated and prolonged overexposure to solvents with tetraethyl lead and nervous system damage.**

## Section VI - REACTIVITY DATA

**SPECIFICITY** - Stable conditions to avoid  
**INCOMPATIBILITIES** -  
 Metallics contain Aluminum. Contamination with water, acids, or alkalis can cause evolution of hydrogen, which may result in dangerous increased pressure in closed containers. Contamination of hardeners with water, alcohols, amines, and other compounds which react with isocyanates, may result in dangerous pressure in, and possible rupture of, closed containers.  
**HARDENERS DEREGISTRATION PRODUCTS** -  
 By fire: Carbon dioxide, Carbon monoxide, oxides of metals in section II  
**HARDENERS POLYMERIZATION - WILL NOT CUR**

## Section VII - SPILL OR LEAK PROCEDURES

**SPILLS OF AIR TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED** - Remove all sources of ignition. Ventilate and remove with inert absorbent. If hardener is spilled, all personnel in the area should be protected as in Section VIII. Cover spill with absorbent material. Decant any spilled material with a 1% 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 may be tested for suitability to determine the applicable RCRA hazardous waste numbers. Waste from products containing lead or Chromium may also be tested for extractability. Inquire for approved facility. Do not incinerate closed containers. Dispose of in accordance with Federal, State, and local regulations regarding pollution.

## Section VIII - PROTECTION INFORMATION

**PRECAUTIONS TO BE TAKEN IN USE** -  
 NO PERSON SHOULD USE THESE PRODUCTS OR BE IN THE AREA WHERE THEY ARE BEING USED, IF THEY HAVE CHIRURGICAL (DENTAL) WORK OR BREATHING PROBLEMS OR IF THEY EVER HAD A REACTION TO ISOCYANATE. Colors contain lead (see LABEL and PROJECT 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 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 4.0 mg/m<sup>3</sup> (total dust), 2.0 mg/m<sup>3</sup> (respirable fraction), 0.5 mg/m<sup>3</sup> (total dust), 0.5 mg/m<sup>3</sup> (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 (29 CFR 1910.107, 1910.108).  
**RESPIRATORY PROTECTION** -  
 Where overexposure is present, a positive pressure air supplied respirator (IC-90 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 person should be in the area where these products are being used unless equipped with the same respiratory protection as the person spraying, sanding, burning, or sealing the dried film, wear a particulate respirator approved by NIOSH/MSHA for protection against non-volatile materials in Section II.  
 Wear gloves which are recommended by glove supplier for protection against materials in Section II.  
**EYE PROTECTION** -  
 Wear safety spectacles with under-protection side shields.  
**OTHER PROTECTIVE EQUIPMENT** -  
 Use barrier cream on exposed skin.

## Section IX - PRECAUTIONS

**LEAD STORAGE CATEGORY** - See TABLE  
**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING** -  
 Containers are Flammable. Keep away from heat, sparks, and open flames. During use and until all vapors are gone: Keep area ventilated. Do not smoke. Extinguish all flames, pilot lights, and heaters. Turn off saws, electric tools and appliances, and any other sources of ignition. Consult MSDS Code. Use approved bonding and grounding procedures.  
 Keep containers 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 PROJECT LABEL). Do not apply lead-containing coats on toys or other children's articles, furniture, or any friction surface of a sliding or rolling wheel may be exposed or seen by children. Do not apply any, wax, or surface of a rolling wheel, such as window sills, benches, stairs, or railings to which children may be climbing exposed.  
 These products must be mixed with other components before use. Before opening the packages, read and follow MSDS LABELS OR ALL COMPONENTS before use. Before opening the packages, intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

## Section X - OTHER REGULATORY INFORMATION

**CALIFORNIA PROPOSITION 65** -  
 MSDS: Some lead-containing colors contain a chemical(s) known to the State of California to cause cancer. New lead-containing colors and HE-175 Hardener contains 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 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.