



# Material Safety Data Sheet

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Emergency telephone number  
Information telephone number  
Date of preparation  
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## DIMENSION® 2.8 VOC H.S. Urethane System

## DM-2U/W

CAS No.	— Section 2 — Hazardous Ingredients (percent by weight)	ACGIH	OSHA	Units	LD50	LC50	Vapor	Non-Lead Colors		Lead-Containing	DH653	DH655
		TLV <STEL>	PEL <STEL>		(Rat-Oral) mg/kg	(Rat) ppm/4hr.	Pressure mm	2U-LF	2U-LL	H.S Hardener	Speed Hardener	
108-88-3	§ Toluene.	50	100 <150>	ppm (skin)	5000	4000	22.0	0 - 4	0 - 4			
100-41-4	§ Ethylbenzene	100 <125>	100 <125>	ppm	3500	NAv	7.1	2	2			
1330-20-7	§ Xylene.	100 <150>	100 <150>	ppm	4300	5000	5.9	10 - 15	10 - 15			
108-67-8	1,3,5-Trimethylbenzene	25	25	ppm	NAv	NAv	2.0					1
95-63-6	§ 1,2,4-Trimethylbenzene	25	25	ppm	NAv	NAv	2.0					2
98-56-6	p-Chlorobenzotrifluoride.	NAv	NAv	NAv	NAv	5.3	15	14 - 17	14 - 17			
67-64-1	Acetone.	500 <750>	1000	ppm	5800	NAv	180.0	7 - 8	7 - 8			
78-93-3	§ Methyl Ethyl Ketone.	200 <300>	200 <300>	ppm	2740	NAv	70.0	0 - 3	0 - 3			
123-86-4	n-Butyl Acetate.	150 <200>	150 <200>	ppm	13100	2000	10.0	2 - 5	2 - 5			2
112-07-2	§ 2-Butoxyethyl Acetate.	NAv	NAv		2400	NAv	1.0	0 - 1	0 - 1			
94-96-2	§ 2-Ethyl-1,3-hexanediol	NAv	NAv		1400	NAv		3 - 4	3 - 4			
Proprietary	Isophorone Diisocyanate Polymer	NAv	NAv		4825	NAv						13
28182-81-2	Hexamethylene Diisocyanate Polymer	0.5 C 1		Mg/M3 Supplier Limit	NAv	NAv					95	81
822-06-0	Hexamethylene Diisocyanate	0.005		ppm	738	NAv	0.05				0.2	0.2
13463-67-7	Titanium Dioxide.	10	10[5]	mg/m3 as Dust [Resp. Fraction]	NAv	NAv		0 - 40	0 - 40			
1333-86-4	Carbon Black.	3.5	3.5	mg/m3	NAv	NAv		0 - 2	0 - 2			
8007-18-9	Nickel Antimony Titanate	0.5	0.5	mg/m3	500	NAv		0 - 7	0 - 7			
1344-37-2	Lead Chromate	0.05	0.05	mg/m3	NAv	NAv			<13			
12656-85-8	Molybdate Orange											
	§ Lead Compound [% Lead] - max									13 [7.3]		
	§ Chromium VI Compound [% Cr] - max									13 [1.6]		
	§ Antimony Compound [% Sb] - max							7 [0.7]	7 [0.7]			
	§ Nickel Compound [% Ni] - max							7 [0.7]	7 [0.7]			
	Weight per Gallon (lbs.)							8.5 - 10.0	8.5 - 10.0	9.67		9.44
	VOC (Volatile Organic Compounds) Emitted - lbs./gal.							2.0 - 2.1	2.0 - 2.1	0.0		0.5
	VOC Less Water & Federally Exempt Solvents - lbs./gal.							2.6 - 2.7	2.6 - 2.7	0.0		0.5
	Photochemically Reactive							Yes	Yes	No		Yes
	Flash Point (°F) / HMIS (NFPA) Rating							43 2*-3-0	42 2*-3-0	135 3*-2-1		135 3*-2-1
	DOL Storage Category / Flammability Classification (Flammable - Combustible)							1B / Flam	1B / Flam	2 / Comb		2 / Comb

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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

IV-45a

## Section 3 — Hazards Identification

**ROUTES OF EXPOSURE** - Exposure may be by INHALATION and/or SKIN or EYE contact, depending on conditions of use. To minimize exposure, follow recommendations for proper use, ventilation, and personal protective equipment.

**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. 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 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

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

**FLASH POINT** - See TABLE **LEL** 0.5 **UEL** 10.6

**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/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.

If Hardener is spilled, 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** - 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** - 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).

**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.**

Use all products 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 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.

All 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 9 — Physical and Chemical Properties

PRODUCT WEIGHT	See TABLE	EVAPORATION RATE	Slower than ether
SPECIFIC GRAVITY	1.02-1.20	VAPOR DENSITY	Heavier than air
BOILING POINT	132 - 384 °F	MELTING POINT	Not Available
VOLATILE VOLUME	50 - 60 %	SOLUBILITY IN WATER	Not Available

## Section 10 — Stability and Reactivity

**STABILITY** - Stable

**CONDITIONS TO AVOID** - None known.

**INCOMPATIBILITY** - Metallics may 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 Dioxide & Monoxide, Oxides of Metals in Section 2

**HAZARDOUS POLYMERIZATION** - Will not occur

## Section 11 — Toxicological Information

**CHRONIC Health Hazards** - Certain colors contain Lead (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.

Ethylbenzene is classified by IARC as possibly carcinogenic to humans(2B) based on inadequate evidence in humans and sufficient evidence in laboratory animals. Lifetime inhalation exposure of rats and mice to high ethylbenzene concentrations resulted in increases in certain types of cancer, including kidney tumors in rats and lung and liver tumors in mice. These effects were not observed in animals exposed to lower concentrations. There is no evidence that ethylbenzene causes cancer in humans.

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.

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

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

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.

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.

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

Reports have linked repeated & prolonged solvent overexposure with permanent brain/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 lead-, chromium-, or Methyl Ethyl Ketone-containing products must also be tested for extractability. 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 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.