

MATERIAL SAFETY DATA SHEET
URETHANE CLEARS, PRIMERS and ACTIVATORS
6/23/05

PRODUCTS COVERED: BU-C1, BU-C2, BUCA-55, BUCA-75, BUCA-95, BU-P, BU-PA

SECTION I-MANUFACTURER

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SECTION II-PRODUCTS

<u>Stock Number</u>	<u>Product Name on Label</u>	<u>Numbers of Ingredients in Products</u>	<u>HMIS RATING</u>			<u>Appearance and Odor</u>	<u>Solubility</u>	
			<u>H</u>	<u>F</u>	<u>R</u>		<u>Weight % in Water</u>	<u>Volatile Volume%</u>
BU-C1	High Production Urethane Clear	2,7,8,10,14,15,16	2	4	0	Clear liq., strong solvent	<1	57
BU-C2	Overall Supreme Urethane Clear	2,6,13,14,15,21	2	4	0	Clear liq., strong solvent	<1	62
BUCA-55	Urethane Clear Spot Activator	1,7,11,12,15,20	2	4	1	Clear liq., strong solvent	<1	47
BUCA-75	Urethane Clear Panel Activator	1,3,11,12,15	2	3	0	Clear liq., strong solvent	<1	46
BUCA-95	Urethane Clear Overall Activator	1,5,9,11,12,14,21	2	3	0	Clear liq., strong solvent	<1	47
BU-P	Ure-Prime Acrylic Urethane Primer/ Surfacer	4,8,15,16,17,18,19,21	2	3	0	Light gray, strong solvent	<1	35
BU-PA	Ure-Prime Urethane Primer Activator	1,15,16	2	3	1	Pale yellow, clear liquid	<1	50

SECTION III-HAZARDOUS INGREDIENTS

<u>Ingredients</u>	<u>CAS Number</u>	<u>Exposure Limits in ppm (parts per million)</u>	<u>Flash Point</u>		<u>Vapor Pres- sure (mm Hg at 20°C)</u>	<u>Evap. Rate n-Butyl Acetate=1</u>	<u>Boiling Point</u>		<u>Flammable Limits in %</u>		<u>Autoigni- tion Pt.</u>	
			<u>°F</u>	<u>°C</u>			<u>°F</u>	<u>°C</u>	<u>Lower</u>	<u>Upper</u>	<u>°F</u>	<u>°C</u>
1. 1-6 Hexamethylene Diisocyanate Monomer	822-06-0	0.005 ppm	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-
2. Acetone	67-64-1	750 A, O	-4	-20	185	7.7	132	56	2.6	12.8	869	465
3. Aromatic Hydrocarbon	64742-95-6	25 A, O	106	41	<10	0.2	306	152	0.9	7.0	880	471
4. Barium Sulfate	7727-43-7	10 mg/m ³ A	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-
5. Dimethyl Glutarate	1119-40-0	NE	225	107	0.07	<0.1	419	215	0.9	7.9	689	365
6. Ester Solvent	88230-35-7	NE	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-
7. Ethyl Acetate	141-78-6	400 A, O	24	-4	76	4.1	169	76	2.2	11.0	800	427
8. Ethyl Alcohol	64-17-5	1000 A, O	54	12	44	1.9	165	74	3.3	19.0	685	363
9. Ethyl-3-ethoxy-propionate	763-69-9	50 A, O	136	58	1.1	0.12	320	163	1.1	Unk	-NA-	-NA-
10. Isobutyl Acetate	110-19-0	150 A, O	69	21	12.5	1.45	233	112	2.4	10.5	-NA-	-NA-
11. Isocyanate Prepolymer	Proprietary	NE	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-
12. Isophorone Diisocyanate	4098-71-9	0.005 ppm	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-
13. Methyl Isobutyl Ketone	108-10-1	50 A, 100 O	60	16	16	1.6	237	114	1.2	Unk	854	457
14. Methyl n-Amyl Ketone	110-43-0	50 A	102	39	2.6	0.33	303	150	-Unk-	-Unk-	-Unk-	-Unk-
15. n-Butyl Acetate	123-86-4	150 A, O	76	24	8	1.0	248	120	1.7	7.6	797	425
16. PM Acetate	108-65-6	NE	116	47	3.7	0.34	295	146	-Unk-	-Unk-	-Unk-	-Unk-
17. Silica, Crystalline	14808-60-7	0.1 mg/m ³ A, O	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-
18. Talc	14807-96-6	2 mg/m ³ A	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-
19. Titanium Dioxide	13463-67-7	15 mg/m ³ A	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-	-NA-
20. Toluene	108-88-3	50 A skin, 200 O	45	7	38	1.5	230	110	1.2	7.0	900	482
21. Xylene	1330-20-7	100 A, O	80	27	10	0.8	281	138	1.0	7.0	810	432

*A means ACGIH TLV, O means OSHA PEL. Other abbreviations: > means greater than, < means less than, Unk means Unknown, NE means Not Established, NA means Not Applicable, ppb means parts per billion, Ceiling means maximum (should not be exceeded), Skin means vapor exposure to the skin must also be considered.

SECTION IV-PHYSICAL DATA

Evaporation Rate: See SECTIONS II, III. **Vapor Density:** Heavier than air. **Solubility in Water (Wt%):** See SECTION II. **Volatile Volume %:** See SECTION II. **Approximate Boiling Point:** See SECTIONS II, III. **Product Density (water=1):** Less than 1. **Appearance and Odor:** See SECTION II.

SECTION V-FIRE AND EXPLOSION DATA

Flammability Class: Extremely Flammable: BU-C1, BU-C2 **Flammable:** BUCA-55, BUCA-75, BUCA-95, BU-P, BU-PA. **Flash Point (SETA Closed Cup Method): BU-C1:** 1°F, -16°C, **BU-C2:** 1°F, -16°C, **BUCA-55:** 45°F, 7°C, **BUCA-75:** 76°F, 2°C, **BUCA-95:** 80°F, 26°C, **BU-P:** 78°F, 26°C, **BU-PA:** 78°F, 26°C

Approximate Flammable Limits: See SECTIONS II, III.

Autoignition Temperature: See SECTIONS II, III.

Extinguishing Media: Foam, carbon dioxide, dry chemical.

Special Fire Fighting Procedures: Full protective equipment, including self-contained breathing apparatus, is recommended because highly toxic gasses may be generated by combustion or thermal decomposition. Water from fog nozzles may be used to cool closed containers to prevent pressure build up (containers may leak or burst when heated.)

SECTION VI-HEALTH HAZARD DATA

PRIMARY ROUTES OF EXPOSURE: Inhalation, Skin contact, Eye contact.

SIGNS AND SYMPTOMS OF EXPOSURE:

INHALATION:

Acute Exposure: Isocyanate vapors or mist at concentrations above the TLV can irritate the respiratory tract (nose, throat, lungs) causing a burning sensation, runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction). Similar symptoms at vapors of much lower concentration may be caused in persons especially sensitive and those with asthma. Asthma attack may also be triggered. Exposure well above the TLV may result in bronchitis, bronchial spasm, fluid in the lungs. Chemical or hypersensitivity pneumonitis with flu-like symptoms (fever, chills) has also been reported. Vapors are irritating to the eyes, nose and throat resulting in red, itchy eyes, runny nose, and dryness of the throat and tightness in the chest. Other possible symptoms of overexposure include dizziness, headache, nausea, vomiting, narcosis, fatigue and loss of appetite.

Chronic Exposure: Some individuals, from repeated overexposure, will develop Isocyanate sensitization (chemical asthma) which will cause them to react to a later exposure to Isocyanates at levels well below the TLV. These symptoms, including chest tightness, wheezing, cough, shortness of breath or asthmatic attack and could be immediate or delayed up to several hours after exposure. Sensitized individuals can experience these symptoms

upon exposure to dust, cold air or other irritants for weeks or even several years in severe cases. Chronic overexposure can cause lung damage, including decrease in lung function, which may be permanent. Sensitization may be either temporary or permanent. Chronic exposure to solvents has been associated with permanent brain and nervous system damage. Symptoms include: loss of memory, loss of intellectual ability and loss of coordination.

SKIN CONTACT:

Acute Exposure: Isocyanates react with skin protein and moisture and can cause skin irritation resulting in reddening, swelling, rash, scaling or blistering. Some persons may develop skin sensitization. Cured material is difficult to remove. Repeated or prolonged skin contact with solvents can result in dry, defatted and cracked skin causing increased susceptibility to infection. Skin irritation may develop into contact dermatitis.

Chronic Exposure: Prolonged contact can cause reddening, swelling, rash, scaling or blistering. In sensitized persons these symptoms may occur as a result of contact with very small amounts of liquid or even exposure to vapors. Exposure to small amounts of solvent may cause some or all of the symptoms as in acute exposure to solvents.

EYE CONTACT:

Acute Exposure: Liquid, aerosols or vapors of these products are irritating and can cause tearing, reddening and swelling accompanied by pain and perhaps a feeling as of fine dust in the eyes.

Chronic Exposure: As in acute exposure but to a lesser degree.

INGESTION:

Acute Exposure: Irritation and possible corrosive action in the mouth, stomach tissue and digestive tract. Vomiting may cause breathing in the material resulting in chemical pneumonia.

Chronic Exposure: None known.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

Asthma and other respiratory disorders (bronchitis, emphysema, hyperreactivity), skin allergies, eczema.

CARCINOGENICITY: Not listed by NTP, IARC or OSHA.

SECTION VII-EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT: Flush with clean, lukewarm water (low pressure) for at least 15 minutes while lifting eyelids. Refer person to physician for immediate attention.

SKIN CONTACT: Remove contaminated clothing immediately. Wash affected areas thoroughly with soap (green tincture soap is recommended) and water. Wash contaminated clothing thoroughly before reuse. For severe exposure get under safety shower after removing clothing, then get medical attention. For lesser exposure seek medical attention if irritation develops or persists.

INHALATION: Move to an area free from risk of further exposure. Administer oxygen or artificial respiration as needed. Obtain medical attention. Asthmatic type symptoms may develop immediately or be delayed up to several hours. Treatment is essentially symptomatic. Consult a physician.

INGESTION: DO NOT INDUCE VOMITING! Give 1 or 2 cups of milk or water to drink. **DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS OR CONVULSING PERSON!** Consult a physician.

NOTES TO PHYSICIAN:

Eyes: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic/steroid preparation frequently. Workplace vapors could produce vision impairing reversible corneal epithelial edema.

Skin: Isocyanates are known skin sensitizers. Treat symptomatically as for contact dermatitis or thermal burn.

Ingestion: Treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated because of the irritating nature of the materials.

Inhalation: Isocyanates are known pulmonary sensitizers. Treatment is essentially symptomatic. A person having a dermal or pulmonary sensitization reaction to isocyanates should never again be exposed to these products in any way.

SECTION VIII-EMPLOYEE PROTECTION RECOMMENDATIONS

Precautions must be taken so that persons handling these products do not breathe the vapors or contact the skin or eyes with vapors or liquid. In spray operations protection must be afforded against both vapors and spray mist.

EYE PROTECTION: Safety glasses, splash goggles or face shield. Contact lenses should not be worn.

SKIN PROTECTION: Chemical resistant gloves. Cover as much of the skin as possible with appropriate clothing. If skin creams are used, keep the area protected by the cream to a minimum.

VENTILATION AND RESPIRATORY PROTECTION: Exhaust ventilation sufficient to keep the airborne concentrations of the solvents and Isocyanates below their respective TLV's must be used. Exhaust air may need to be cleaned by scrubbers or filters to reduce environmental contamination. In addition, a respirator that is approved for use in Isocyanate containing areas (air purifying or fresh air supplying) may be necessary. When mixing the hardener with paint, an air purifying respirator should be used (OSHA/MSHA approved TC23C). However, when airborne isocyanate concentrations are not known or are above 10 ppb or over-spray is present, a positive pressure air supplied respirator (OSHA/MSHA approved TC19C) must be used. Wear protection until all mist and vapors are gone Observe OSHA regulations (29 CFR 1910.134) for respirator use. **NOTE: All workers in area must wear protective equipment!**

OTHER PROTECTIVE MEASURES: Safety showers and eye-wash stations should be available. Educate and train employees in safe use of product. Follow all label instructions. Medical supervision of all employees who handle or come in contact with these products is recommended. This should include pre-employment and periodic medical examinations with respiratory function tests (FEV, FVC as a minimum). Persons with asthmatic type conditions, chronic bronchitis, other chronic respiratory diseases or recurrent skin eczema or sensitization should be excluded from working with isocyanates. Once a person is diagnosed as sensitized to an isocyanate, no further exposure can be permitted.

SECTION IX-REACTIVITY DATA

STABILITY: Stable under normal room conditions.

HAZARDOUS POLYMERIZATION: May occur if a closed container is contaminated with water or other materials that react with isocyanates and the container becomes pressurized with CO₂ liberated by the reaction. May occur if the container is heated to over 400°F (204°C).

INCOMPATIBILITY (Materials to Avoid): Water, amines, strong bases, alcohols, metal compounds and surface active materials (detergents).

HAZARDOUS DECOMPOSITION PRODUCTS: By high heat and fire: carbon dioxide, carbon monoxide, oxides of nitrogen, traces of hydrogen cyanide and isocyanates.

SECTION X-SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Put on protective equipment including respiratory protection. Prevent further spillage. Evacuate nonessential personnel. Remove all sources of ignition and ventilate the area. Keep spill from reaching sewers and waterways. Cover the spill with sawdust, vermiculite, Fuller's Earth or other absorbent material. Pour decontamination solution over the spill area and allow to react for at least 10 minutes. Collect material with non-sparking tools and put in an open container. Add further amounts of decontamination solution. Remove container to a safe place, cover loosely, and allow to stand for 24-48 hours or until solvents evaporate. Wash down spill area with decontamination solution.

Decontamination Solution: Mix 2 quarts household ammonia, 1 cup detergent, 2 quarts water.

WASTE DISPOSAL METHOD: Follow all federal, state and local environmental control regulations. Incineration is the preferred method. Empty containers must be handled with care due to product residue and flammable solvent vapors. Decontaminate containers before disposal.

RCRA STATUS: Since these products are ignitable and toxic, they are hazardous when discarded.

SECTION XI-SPECIAL PRECAUTIONS & STORAGE DATA

STORAGE TEMPERATURE (MIN. / MAX.):

-30°F (-34°C) / 122°F (50°C)

KEEP OUT OF REACH OF CHILDREN

SECTION XII-FEDERAL EPA REGULATION COMPLIANCE INFORMATION-EMERGENCY PLANNING and COMMUNITY RIGHT-TO-KNOW ACT of 1986

The following percentage table is to be used to meet Environmental Protection Agency (EPA) Regulations:

40 CFR Part 370 Emergency and Hazardous Chemical Inventory Forms and Community Right-to-Know Reporting Requirements. 2. Title III Section 313 Toxic Chemical Release Reporting Requirements. **Note:** All the Chemicals listed must be considered for 1. above. Only the chemicals marked with an asterisk (*) fall under 2.

HAZARDOUS INGREDIENTS IN URETHANE CLEARS, PRIMERS AND ACTIVATORS—APPROXIMATE PERCENTAGES BY WEIGHT

Ingredients (Chemicals)	CAS Number	BU-C1	BU-C2	BUCA-55	BUCA-75	BUCA-95	BU-P	BU-PA
1. 1-6 Hexamethylene Diisocyanate Monomer	822-06-0	—	—	< 0.15	<0.15	<0.1	—	0-2
2. Acetone	67-64-1	5-10	15-25	—	—	—	—	—
3. Aromatic Hydrocarbons	64742-95-6	—	—	—	0-10	—	—	—
4. Barium Sulfate	7727-43-7	—	—	—	—	—	1-5	—
5. Dimethyl Glutarate	1119-40-0	—	—	—	—	5-15	—	—
6. Ester Solvent	88230-35-7	—	1-5	—	—	—	—	—
7. Ethyl Acetate	114-78-6	1-5	—	10-20	—	—	—	—
8. Ethyl Alcohol	64-17-5	1-5	—	—	—	—	1-5	—
9. Ethyl-3-ethoxypropionate	763-69-9	—	—	—	—	5-15	—	—
10. Isobutyl Acetate	110-19-0	1-5	—	—	—	—	—	—
11. Isocyanate Prepolymer	Proprietary	—	—	50-55	50-55	50-55	—	—
12. Isophorone Diisocyanates	4098-71-9	—	—	<0.01	<0.05	<0.05	—	—
13. Methyl Isobutyl Ketone	108-10-1	—	15-25	—	—	—	—	—
14. Methyl n-Amyl Ketone	110-43-0	20-30	5-15	—	—	5-15	—	—
15. n-Butyl Acetate	123-86-4	1-5	5-15	10-20	35-45	—	20-30	20-30
16. PM Acetate	108-65-6	1-5	—	—	—	—	1-5	20-30
17. Silica, crystalline (Quartz)	14808-60-7	—	—	—	—	—	1-5	—
18. Talc	14807-96-6	—	—	—	—	—	15-25	—
19. Titanium Dioxide	13463-67-7	—	—	—	—	—	5-10	—
*20. Toluene	108-88-3	—	—	10-20	—	—	—	—
*21. Xylene	1330-20-7	—	5-15	—	—	15-25	1-10	—
		BU-C1	BU-C2	BUCA-55	BUCA-75	BUCA-95	BU-P	BU-PA
Physical Hazard-Fire		57	62	47	46	47	35	50
Physical Hazard-Pressure Release		-----NOT A HAZARD-----						
Health Hazard-Acute		57	62	47	46	47	35	50
Health Hazard-Chronic		57	62	47	46	47	35	50
Physical Hazard-Reactivity		-----NOT A HAZARD-----						

SECTION XIII-VOLATILE ORGANIC COMPOUND (V.O.C.) CONTENT

Stock Number	BU-C1	BU-C2	BUCA-55	BUCA-75	BUCA-95	BU-P	BU-PA
Weight Percent	50.07	52.25	47.12	47.36	48.18	44.03	49.93
Pounds per Gallon	4.00	4.00	4.00	4.02	4.17	4.8	4.28
Grams per Liter	478	478	478	481	500	570	512
Pounds per Can	1.01	1.01	0.25	0.25	0.26	1.2	0.28

SECTION XIV-CALIFORNIA PROPOSITION 65 WARNINGS

According to the California Safe Drinking Water and Toxic Enforcement Act (PROPOSITION 65) "No person in the course of doing business shall knowingly and intentionally expose any individual to a chemical known to the State of California to cause cancer, birth defects or reproductive toxicity without first giving clear and reasonable warning to such individuals of such an exposure". **The following warning applies:**

DISCLAIMER: The information contained in this MSDS is believed to be accurate and reliable as of the date indicated.

Crest Industries, Inc. assumes no legal responsibility and makes no representation, warranty or guarantee, expressed or implied, as to the completeness or accuracy of the information. It is offered solely for your consideration, investigation and verification. The user is ultimately responsible for the safe use of the material in accordance with applicable federal, state, provincial and local laws and regulation

SHELF LIFE: 12 months @ 77°F (25°C)

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Keep away from heat, sparks and open flame. Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected. At maximum storage temperature, material may slowly polymerize without hazard. Ideal storage temperature range for ease of handling is 50-81°F (10-27°C). Avoid contact with skin and eyes. Wash hands after use and before eating, drinking, smoking or using the toilet. Employee education and training in the safe use and handling of these products are required under the OSHA Hazard Communication Standard (29CFR1910.1200).

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

SECTION XV-OZONE DEPLETION IN THE UPPER ATMOSPHERE

None of the products on this MSDS contains upper atmosphere ozone depleting substances.