

MATERIAL SAFETY DATA SHEET

1. PRODUCT IDENTIFICATION

1.1	Product Name:	System Six™ B component
1.2	Chemical Name:	See ingredients listed in section 2
1.3	Synonyms:	None reported by the manufacturer
1.4	Trade Names:	System Six R, S, F
1.5	Product Use:	
1.6	Manufacturer's Name:	Sakura Enterprises, Inc. dba Inflatable Technologies
1.7	Manufacturer's Address:	2290 S. Lipans St. Denver, CO 80222
1.8	Business Phone:	303.922.3111
1.9	Emergency Phone:	303.922.3111

2. COMPOSITION & INGREDIENTS

COMPOSITION	CAS No./ RTECS No.	%	EXPOSURE LIMITS IN AIR (mg/m ³)					
			OSHA		ACGIH		UNITS	
			PEL	STEL	TLV	STEL		
Proprietary	NA		NA	NA	NA	NA	NA	
Ethyl Acetic Ester	141-78-6	89-91	400	N.E.	400	N.E.	ppm	
Aromatic Diamine	NA	< 12	N.E.	N.E.	N.E.	N.E.	ppm	

3. IDENTIFICATION OF RISKS

3.1	Hazard Identification:	HEALTH: 2	FLAMMABILITY: 3	REACTIVITY : 0	PERSONAL PROTECTION: J
3.2	Routes of Entry:	INHALATION: YES		SKIN & EYES: YES	INGESTION: YES
3.3	Effects of Exposure:	EYES: Possible irritation and burning sensation. SKIN: Possible irritation and dermatitis. INGESTION: Possible gastrointestinal irritation, nausea, vomiting or diarrhea. INHALATION: Mucous membrane irritation			
3.4	Symptoms of Exposure:	EYES: Irritation and burning sensation. Temporary corneal damage may occur. (Usually reversible) SKIN: Possible irritation and dermatitis (rash), characterized by red, dry, itching skin. INGESTION: Gastrointestinal corrosion, nausea, vomiting, and headache. INHALATION: Bronchitis, bronchial spasms, and pulmonary edema have been reported			
3.5	Acute Health Effects:	EYES: Irritation. SKIN: Possible irritation and dermatitis (rash). Isocyanate sensitivity INGESTION: Possible gastrointestinal irritation, nausea, vomiting or diarrhea. INHALATION: Lung damage, liver abnormalities, kidney, and or spleen damage.			
3.6	Chronic Health Effects:	Possible lung, kidney, liver and spleen damage.			
3.7	Target Organs:	Skin, eyes, lungs, kidney, liver and spleen.			
3.8	Toxicological Properties:	See section 11.			

4. FIRST AID

4.1	First Aid:	EYES: Flush eyes thoroughly with copious amounts of water for at least 20 minutes, holding eyelids open to ensure complete flushing. If irritation persists, contact a physician. SKIN: Wash affected areas with soap and water. If irritation persists, contact a physician. Launder clothing before reuse. INGESTION: Do not induce vomiting. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration. Get medical attention immediately. INHALATION: Remove victim to fresh air at once.
4.2	Medical Conditions Aggravated by Exposure:	None known.

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5. FIRE & EXPLOSION HAZARDS

5.1	Flashpoint & Method:	- 4° C T.C.C			
5.2	Autoignition Temperature:	480° C			
5.3	Flammability Limits:	Lower Explosive Limit (LEL):	2.0%	Upper Explosive Limit (UEL):	11.00%
5.4	Fire & Explosion Hazards:	Flammable Liquid. Solvents are heavier than air.			
5.5	Extinguishing Methods:	CO ₂ , Alcohol Foam, Dry Chemical, or Water Spray			
5.6	Firefighting Procedures:	Firefighters should wear full-face, self-contained breathing apparatus (MSHA/NIOSH approved or the equivalent) and impervious clothing.			

6. SPILLS & LEAKS

6.1	Spills:	Secure spill area and maximize ventilation. Deny entry to all unprotected individuals. Individuals involved in the cleanup must wear appropriate personal protective equipment. Recover free liquid or cover with inert absorbent material and place into appropriate container(s) for disposal. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers or any natural waterway or drinking supply. Neutralize with a mixture of ammonia, detergent, and water.
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7. STORAGE & HANDLING

7.1	Work & Hygiene Practices:	Use normal hygiene practices. Avoid breathing vapors. Avoid direct skin contact. Wash hands thoroughly after using this product and before eating, drinking, or smoking.
7.2	Storage & Handling:	Use and store in a cool, dry, well-ventilated area. Keep away from excessive heat, open flames, sparks, and other possible sources of ignition. Do not store in unmarked containers or storage devices.
7.3	Special Precautions:	Readily available emergency fire, first aid, and spill response equipment and/or measures are highly recommended.

8. EXPOSURE CONTROL & PERSONAL PROTECTION

8.1	Ventilation & Engineering Controls:	Explosion-proof ventilation equipment is sufficient for use with this product. Local exhaust is recommended in enclosed or confined spaces.
8.2	Respiratory Protection:	A respiratory protection program that meets ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.
8.3	Eye Protection:	Safety glasses with side shields should be used with this product. If splashing is anticipated, splash goggles and a faceshield are recommended.
8.4	Hand Protection:	Where contact is likely, impervious gloves are recommended. Do not wear rings, watches, or jewelry that could entrap the material against the skin.
8.5	Body Protection:	None required under normal conditions.

9. PHYSICAL & CHEMICAL PROPERTIES

9.1	Density:	7.5 lb/gal
9.2	Boiling Point:	> 78°C
9.3	Volatility:	76-90 %
9.4	Evaporation Rate:	4.1 (water = 1)
9.5	Vapor Pressure @ 34.2°C:	76mm Hg
9.6	Molecular Weight:	NA
9.7	Appearance & Colour:	Thin, amber liquid
9.8	Odor Threshold ppm:	0.016
9.9	Solubility:	Slight
9.10	pH:	NA
9.11	Viscosity:	NA
9.12	Coefficient Oil/Water Distribution:	NA
9.13	Additional Information:	Vapor density 3.04 (Air =1.0)

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10. STABILITY & REACTIVITY

10.1	Stability:	Stable under normal conditions.
10.2	Decomposition Products:	Heat and CO,CO ₂ ,N Oxides,HCN, TDI,solvents. Reacts with H ₂ O to form heat,CO ₂ and ureas.
10.3	Polymerization:	NA
10.4	Conditions to Avoid:	Close proximity to incompatible substances. High temperatures and sources of ignition.
10.5	Incompatible Substances:	Strong acids, strong bases, alcohols, water and amines. Some copper alloys.

11. TOXICOLOGICAL INFORMATION

11.1	Toxicity Data:	Aromatic Diamine
11.2	Acute Toxicity(H&S scale):	LD50=3, Dermal LD50=4
11.3	Chronic Toxicity:	NA
11.4	Suspected Carcinogen:	NO
11.5	Reproductive Toxicity:	
	Mutagenicity:	None Determined.
	Embryotoxicity:	None Determined.
	Teratogenicity:	None Determined.
	Reproductive Toxicity:	None Determined.
11.6	Irritancy of Product:	NA
11.7	Biological Exposure Indices:	NA
11.8	Medical Recommendations:	Treat symptomatically.

12. ECOLOGICAL INFORMATION

12.1	Environmental Stability:	The manufacturer has not reported detailed studies on the environmental fate of the material. However, prudent practice would dictate the material not be allowed to enter the environment.
12.2	Effect on Plants & Animals:	The manufacturer has not reported any plant and animal effects.
12.3	Effect on Aquatic Life:	The manufacturer has not reported any aquatic life effects.

13. DISPOSAL CONSIDERATIONS

13.1	Waste Disposal:	Dispose of in accordance with federal, state & provincial hazardous waste laws.
13.2	Special Considerations:	If the material is unsuitable for recycling or reclamation, enclosed-controlled incineration is recommended unless otherwise prohibited by local ordinance.

14. TRANSPORTATION INFORMATION

14.1	DOT CLASS:	3	Shipping Name: Coating Solution
14.2	UN/NA:	1139	
14.3	ER Guide Number:	127	
14.4	Packing Group:	2	

15. REGULATORY INFORMATION

15.1	SARA Reporting Requirements:	This product does contain substances subject to SARA reporting requirements.
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15. REGULATORY INFORMATION

15.2	Canada WHMIS:	COMPOSITION	CAS No./ RTECS No.	%
		Ethyl Acetic Ester	141-78-6	89-91
15.3	SARA 313:	Ethyl Acetic Ester	141-78-6	89-91
15.4	CA PROP 65:	NA		
15.5	OSHA 29 CFR 1910.1200 :	Hazardous		
15.6	TSCA:	On TSCA inventory.		

16. OTHER INFORMATION

16.1	Other Information:	This product has been classified according to the hazard criteria of the U.S. Occupational Safety & Health Administration's hazard Communication Standards and Health Canada's Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR. The components of this product are listed on the DSL/NDSL. None of the components of this product are listed on the priorities substances list.
16.2	Terms & Definitions:	Please see page 5 of this Material Safety Data Sheet.
16.3	Disclaimer:	This Material Safety Data Sheet complies with U.S. OSHA's Hazard Communication Standard, 29 CFR §1910.1200 and Health Canada's Workplace Hazardous Materials Information System (WHMIS. To the best of Sakura Enterprises Inc.'s knowledge), the information contained herein is reliable and accurate as of this date; however, accuracy, suitability or completeness are not guaranteed and no warranties of any type, either expressed or implied, are provided. The information contained herein relates only to the specific product. Contact the manufacturer for additional information.

16.4	Prepared for: SEI dba Inflatable Technologies 2290 S. Lipans St. Denver, CO 80222 Phone: 303.92.3111	  www.raftrepair.com
16.5	Prepared by: Sakura Enterprises, Inc. 2290 S. Lipans St. Denver, CO 80222 Phone: 303.92.3111 Web: www.raftrepair.com	

MATERIAL SAFETY DATA SHEET

Prepared according to the WHMIS, ANSI, ACC & OSHA standards.

Revision 1.0

10/01/2005

DEFINITION OF TERMS

A large number of abbreviations and acronyms appear on a MSDS. Some of these that are commonly used include the following:

GENERAL INFORMATION:

CAS No.	Chemical Abstract Service Number
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EXPOSURE LIMITS IN AIR:

ACGIH	American Conference on Governmental Industrial Hygienists
TLV	Threshold Limit Value
OSHA	U.S. Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
IDLH	Immediately Dangerous to Life and Health

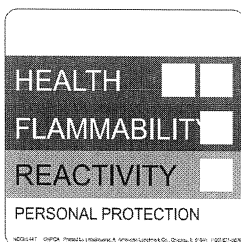
FIRST AID MEASURES:

CPR	Cardiopulmonary resuscitation - method in which a person whose heart has stopped receives manual chest compressions and breathing to circulate blood and provide oxygen to the body.
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HAZARDOUS MATERIALS IDENTIFICATION SYSTEM: HMIS

HEALTH, FLAMMABILITY & REACTIVITY RATINGS:

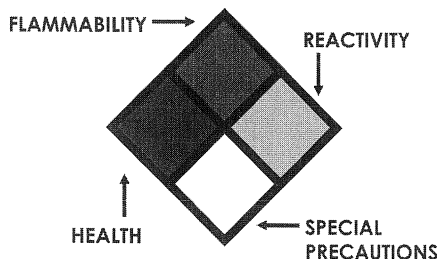
0	Minimal Hazard
1	Slight Hazard
2	Moderate Hazard
3	Severe Hazard
4	Extreme Hazard



NATIONAL FIRE PROTECTION ASSOCIATION: NFPA

FLAMMABILITY LIMITS IN AIR:

Autoignition Temperature	Minimum temperature required to initiate combustion in air with no other source of ignition
LEL	Lower Explosive Limit - lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source
UEL	Upper Explosive Limit - highest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source



HAZARD RATINGS:

0	Minimal Hazard
1	Slight Hazard
2	Moderate Hazard
3	Severe Hazard
4	Extreme Hazard

ACD	Acidic
ALK	Alkaline
COR	Corrosive
-W	Use No Water
OX	Oxidizer

TOXICOLOGICAL INFORMATION:

LD₅₀	Lethal Dose (solids & liquids) which kills 50% of the exposed animals
LC₅₀	Lethal concentration (gases) which kills 50% of the exposed animal
ppm	Concentration expressed in parts of material per million parts
TD₁₀	Lowest dose to cause a symptom
TCLo	Lowest concentration to cause a symptom
TD₁₀, LD₁₀, & LD₅₀ or TC, TC₁₀, LC₁₀, & LC₅₀	Lowest dose (or concentration) to cause lethal or toxic effects
IARC	International Agency for Research on Cancer
NTP	National Toxicology Program
RECS	Registry of Toxic Effects of Chemical Substances
BCF	Bioconcentration Factor
TL_m	Median threshold limit
log K_{ow} or log K_{oc}	Coefficient of Oil/Water Distribution

REGULATORY INFORMATION:

WHMIS	Canadian Workplace Hazardous Material Information System
DOT	U.S. Department of Transportation
TC	Transport Canada
EPA	U.S. Environmental Protection Agency
DSL	Canadian Domestic Substance List
NDSL	Canadian Non-Domestic Substance List
TSCA	U.S. Toxic Substance Control Act

PERSONAL PROTECTION RATINGS:

A		G	
B		H	
C		I	
D		J	
E		K	
F		X	Consult your supervisor or S.O.P. for special handling directions.

Safety Glasses	Splash Goggles	Face Shield & Eye Protection	Gloves
Boots	Synthetic Apron	Full Suit	Dust Respirator
Vapor Respirator	Dust & Vapor Respirator	Full Face Respirator	Airline Hood/Mask or SCBA

Note: the dotted circle indicates that this respiratory protective equipment is required for high concentrations or for large volume spills or releases of product.

OTHER STANDARD ABBREVIATIONS:

NA	Not Available
NR	No Results
NE	Not Established
ND	Not Determined
ML	Maximum Limit
SCBA	Self-Contained Breathing Apparatus