SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION				
Product Name:	SISCOCRETE HF (PART B)			
Product Use:	Polyurethane concrete flooring system			
Manufacturer/Supplier	r: SISSONS PAINTS (THAILAND) LTD.			
Address:	91/2 Moo 3 Suwinthawong Road, Minburi, Bangkok 10510			
	Tel. +66(0) 2517 1146, +66(0) 2918 6760-1, Fax. +66(0) 2517 2137			
SECTION 2 COMPOSI	TION/INFORMATION ON INGREDIENTS			
Chemical Characteristi	c: 4,4-Diphenylmethane diisocyanate			
Ingredients	CAS.No. Percent			
Diphenylmethane diiso	ocyanate 9016-87-9 100			
Exposure Limits:	OSHA PEL Ceiling Limit 0.20 mg/m ³			
	ACGIH TLV 0.05 mg/m ³ (8-hour, 40 hours/week)			
	NIOSH REL/TWA 0.05 mg/m ³ (10-hour, 40 hours/week)			
	NIOSH REL/CEILING 0.20 mg/m ³ (10-minute)			
SECTION 3 HAZARDS	IDENTIFICATION			
Route of entry				
Eye contact:	Liquid, aerosols or vapors are irritating. Can cause tearing, reddening and			
	swelling. If left untreated, corneal damage can occur and injury is slow to			
	heal. Damage is usually reversible.			
Skin contact:	Moderate irritant. Repeated and/or prolonged contact may cause skin			
	sensitization. There is limited evidence from animal studies that skin contact			
	may play a role in respiratory sensitization. These results emphasize the			
	need for protective clothing including gloves to be worn at all the times			
	when handling these chemicals or in maintenance work.			
Inhalation (acute):	Isocyanate vapor/mist at concentration above the exposure limits can			
	irritate (burning sensation) the mucous membranes in the respiratory tract,			
	causing runny nose, sore throat, coughing, chest discomfort, shortness of			
	breath and reduced lung function. Person with preexisting nonspecific			
	bronchial hyperactivity can respond to concentrations below the TLV with			
	similar symptoms as well as astrima attack. Exposure well above the LLV			
	may lead bronchills, bronchial spasm and pulmonary edema. Effects are			
	usually reversible. Chemical of hypersensitive pheumonitis, with hu-like			
	symptoms has also been reported. These symptoms can be delayed up to			
Ingestion	Cause irritation and hurning of the mucous membrane of the			
	gastrointestinal tract. Symptoms can include sore throat abdominal nain			
	nausea vomiting and diarrhea			
Effects of chronic expo	osure: Prolonged contact may cause reddening, swelling, rash, scaling,			
	blistering. And in some cases, skin sensitization, as a result of previous			
	repeated overexposure or a single large dose. Certain individuals develop			
	sensitization which will cause them to react to a later exposure to product at			
	levels well below the TLV. Symptoms including chest tightness, wheezing,			
	cough, shortness of breath or asthma attack, could be immediate or			
	delayed. There are reports that once sensitized, an individual can experience			
	these symptoms upon exposure to dust, cold air or other irritants. This			
	increased lung sensitivity can persist for weeks and in severe cases for			
	several years.			
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Carcinogenicity:	Neither MDI nor polymeric MDI are listed by the NTP, IARC, ACGIH or
	regulated bt OSHA as carcinogens.
Medical Conditions ag	gravated by exposure: Asthma, other respiratory disorders (bronchitis,
	emphysema, bronchial hyperreactivity), skin allergies, eczema.
SECTION 4 FIRST AID	MEASURES
Eye contact:	Immediately flush eyes with running water for a minimum of 15 minutes.
	Hold eyelids open during flushing. If irritations persist, repeat flushing.
Skin contact:	In case of contact, immediately flush skin with plenty of soap and water
	Remove contaminated clothing. Wash clothing before reuse. If the irritations
	persist, obtain medical attention.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If
	breathing is difficult, give oxygen. Obtain medical attention.
Ingestion:	Dilute with a small amount (200-250ml) of water. Do not induce vomiting.
Additional informatio	Get Immediate medical attention.
	burned, instill antibiotic steroid preparation frequently. Workplace vapors
	have produced reversible corneal epithelial edema impairing vision.
	SKIN:Sensitizer. Treat symptomatically as for contact dermatitis or thermal
	burns. If burned, treat as thermal burn. INGESTION: Treat symptomatically.
	There is no specific antidote. Inducing vomiting is contraindicated because
	of the irritating nature of this compound. RESPIRATORY: This compound is a
	individual having a skin or nulmonary sensitization reaction to this material
	marriada naving a skin of parnonary scholazation reaction to this material
	should be removed from exposure to any isocyanate.
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SECTION 5 FIRE FIGHT	should be removed from exposure to any isocyanate.
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SECTION 5 FIRE FIGHT Flash point : Upper flammable limit Lower flammable limit Auto-ignition tempera Hazardous combustion Extinguishing media: Sensitivity to impact: Sensitivity to static dis SECTION 6 ACCIDENT Leak / Spill: Major spills:	should be removed from exposure to any isocyanate. ING MEASURES >198.8°C t: Not applicable t: Not applicable n products: Thermal decomposition products can include, but are not limited to Hydrogen Chloride, Oxides of Nitrogen and Carbon Monoxide. Use dry chemical, foam, or CO2 extinguishing media. Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area, and equipment until decontaminated. Not applicable scharge: Not applicable Evacuate all non-essential personnel. Ventilate. Eliminate all sources of ignition. Dike area to prevent spreading. Wear full protective equipment, including respiratory equipment during clean-up. If temporary control of isocyanate vapor is required, a blanket of protein foam may be place over spill. Large quantities may be pumped into closed,

Minor spills:	Absorb isocyanates with sawdust or other absorbent. Shovel into suitable	
	unsealed containers. Transport to well-ventilated area (outside) and treat	
	with neutralizing solution: mixture of water (80%) with non-ionic surfactant	
	Tergitol TMN-10 (20%), or: water (90%), concentrated ammonia (3-8%) and	
	detergent (2%). Add about 10 parts of neutralizer per part of isocyanate	
	with mixing. Allow standing uncovered for 48 hours to let carbon dioxide	
	escape.	
Clean up:	Decontaminate floor with decontamination solution, letting stand for at	
	least 15 minutes.	
SECTION 7 HANDLING	AND STORAGE	
Storage needs:	Store in tightly closed containers to prevent moisture contamination. Do not	
	reseal if contamination is suspected. Uncontaminated containers, free of	
	moisture, may be resealed only after placing under a nitrogen blanket. Do	
	not store in containers made of copper, copper alloys or galvanized surfaces.	
	Exposure to vapors of heated isocyanates can be extremely dangerous.	
Storage temperature:	16°C to 38°C (60°F-100°F).	
SECTION 8 EXPOSURE	CONTROL / PERSONAL PROTECTION	
Handling Precautions:	Avoid personal contact with the product or reaction mixture. Use only with	
	adequate ventilation to ensure that the exposure limits is not exceeded.	
Eye protection:	Chemical safety goggles or 8" face shield. Contact lenses should not be worn	
	when working with this chemical.	
Skin protection:	Chemical resistant gloves, butyl rubber, polyvinyl alcohol type gloves	
	recommended, and a barrier cream. Practice good hygiene. Wash	
	thoroughly	
	before handling any food. Wear adequate protective clothes.	
Respiratory protection: Respiratory protection must be worn whenever concentrations of MDI		
	exceed the TL. A positive pressure supplied air respirator, or a self contained	
	breathing apparatus is recommended.	
Ventilation requireme	nts: Local exhaust should be used to maintain levels below the TLV whenever	
	isocyanate is processed, heated or spray. Wear an appropriate properly	
	fitted respirator when contaminant levels exceed the recommended	
	exposure limits. Avoid breathing mists: if general ventilation or local exhaust	
	is inadequate, persons exposed to mists should wear approved breathing	
	devices.	
Physical State	Brown Liquid	
Odor:	Slightly musty odor	
Viscosity @ 25°C·		
Spacific Gravity @ 25-C.	200 Cr^3	
specific Gravity, @ 25-	Not octablished	
Vanor Broccuro	$< 0.000004 \text{ mm} \text{Hz} \approx 200C (MDI)$	
Vapor Density	حن.000004 mm ng @ 20=ر (الالكار) 8 5 for MDI (Air=1)	
Roiling Point:	$\frac{1}{2000} = \frac{1}{100} = 1$	
Freezing /Molting Doing	200-C(400-F) どういいロタロロ MDI	
Decomposition Torra		
Solubility in water	Not soluble. Reacts slowly with water to liberate CO. gas	
Solubility in Water:	Not soluble. Reacts slowly with water to liberate CO2 gas.	

SECTION 10 STABILITY AND REACTIVITY			
Incompatibility:	This product will react with any materials containing active		
	hydrogens such as water, alcohol, amines, bases and acids. The		
	reaction with water is very slow under 50°C (122°F), but is		
	accelerated at higher temperatures. It will cause some corrosion to		
	copper alloys and aluminum.		
Hazardous products of	decomposition:		
	Isocyanate vapors and other irritating, highly toxic gases (Carbon		
	Monoxide, Carbon Dioxide, Nitrous Oxide and HCN).		
Hazardous Polymerizat	tion: Polymerization may occur at elevated temperatures in the presence		
	of alkalies, tertiary amines and metal compounds.		
SECTION 11 TOXICOLO	OGICAL INFORMATION		
Oral LD50:	> 5000 mg/kg (rat)		
Dermal LD50:	> 5000 mg/kg (rabbit)		
Mutagenic Effects:	There is no substantial evidence of mutagenic potential.		
Reproductive Effects:	No adverse reproductive effects are anticipated.		
Tetrogenic Effects:	No birth defects were seen in two independent animal (rat) studies.		
	Fetotoxicity was observed at doses that were extremely toxic to the mother.		
	Fetotoxicity was not observed at doses that were not maternally toxic. The		
	doses used in these studies were maximal respirable concentrations well in		
	excess of the defined occupational limits.		
Remark:	A study was conducted where groups of rats were exposed for 6 hours/day,		
	5days/week for a lifetime to atmospheres of respirable polymeric MDI		
	aerosols at concentrations of 0, 0.2, 1 or 6 mg/m ³ . No adverse effect were		
	observed at 0.2 mg/m ³ . At the 1 mg/m ³ , minimal nasal and lung irritant		
	effects were seen. Only at the top concentration (6 mg/m ³) was there an		
	increased incidence of benign tumor of the lung. One malignant pulmonary		
	tumor was seen in the 6 mg/m ³ group. MDI adminsistration to rats in this		
	study did not change the distribution and incidence of tumors from those		
	seen in control animals. The increased incidence of lung tumors is associated		
	with prolonged respiratory irritation and the concurrent accumulation of		
	yellow material in the lung. In the absence of prolonged exposure to high		
	concentrations leading to chronic irritation and lung damage, it is highly		
	unlikely that tumor formation will occur.		
SECTION 12 ECOLOGIC	CAL INFORMATION		
Toxicity:	Polymeric MDI		
LC50 (Zebra fish):	>1000 mg/L		
EC50 (Daphnia magna)	(24 hrs): >1000 mg/L		
EC50 (E. Coli):	>100 mg/L		
Persistence and degrad	dation: Immiscible with water, but will react with water to produce inert and		
	Non-biodegradable solids.		
Environmental fate and	d Distribution:		
	It is unlikely that significant environmental exposure in the air or		
	water will arise based on consideration of the product and use of		
	substance.		

 Waste disposal information: Do not dump into any sewers, on the ground, or into any bod water. All disposal methods must be in compliance with applicable federal, state/provincial and local laws and regulati Regulations may vary in different locations. Waste characterizat and compliance with applicable laws are the responsibility solel the waste generator. SECTION 14 TRANSPORT INFORMATION DOT Classification: Single Containers less than 5,000lbs are not regulated. Si containers with 5,000 lbs or more of 4,4'-MDI are regulated Other Regulated Substances, Liquid, N.O.S. (Methylene Diph 	v of all ons. ons v of			
SECTION 14 TRANSPORT INFORMATION DOT Classification: Single Containers less than 5,000lbs are not regulated. Si containers with 5,000 lbs or more of 4,4'-MDI are regulated Other Regulated Substances, Liquid, N.O.S. (Methylene Diphered)				
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Diisocyanate), 9, NA3082, PGIII, RQ.	gle as: nyl			
TDG Classification: Not regulated				
IMO/IMDG Classification: Not regulated				
ICAO/IATA classification: Not regulated				
Emergency telephone number: 1-877-DEMILEC & (613) 996-6666 CANUTEC				
SECTION 15 REGULATORY INFORMATION				
NFPA (National Fire Protection Association, USA)				
Health: 2, Fire hazard: 1, Reactivity: 1.				
0- Insignificant 1-Slight 2-Moderate 3-High 4-Extreme				
<u>U.S. Federal regulations</u> This material is classified as hazardous under OSHA Hazard Communication Standard (29 1910.1200).	CFR			
HSC Classification: Class: Toxic				
Class: Irritating substance				
Class: Sensitizing substance				
TSCA 8(b) INVENTORY: All Ingredients Listed.				
EPCRA section 313 (40 CFR 372)				
CERCLA(Comprehensive Environmental Response Compensation	hne			
Liability Act: 4.4-Methylene Diphenyl Dijsocyanate (CAS 101-68-8) h	s a			
5,000 lb. RQ (reportable quantity). Any spill or release above the RQ mus	be			
reported to the National Response Center (800-424-8802).				
This product does not contain nor is it manufactured with ozone deple	ing			
substances				
State Perulatione: California prop. 65: No products were founded				
State Regulations: California prop. 65: No products were founded.				
State Regulations: California prop. 65: No products were founded. SECTION 16 OTHER INFORMATION				

The information and recommendations contained herein are based on information believed to be correct. However, no guarantee or warranty of any kind, expressed or implied is made with respect to the information provided herein.