MATERIAL SAFETY DATA SHEET						This Data Sheet		
R.H. CROWN CO., INC.						Prepared 12-12-90		
100 N. MARKET ST.						By:R.Reynolds		
JOHNSTOWN, NY 12095								
EMERGENCY Chem-tel		INFORMA						
TELEPHONE NO: 800-255-3924		TELEPHONE NO. 518-762-4589						
HIDENTIFICATION PRODUCT NAM		Crown Ammonia CHEMICAL FAMILY Inorganic Bases						
CHEMICAL NAME: Ammonium Hy	'AL FAMIL'	Y Loc	rganic Bases	,	1			
TORSELL A. MILAOU INO		<u></u>		.		······································		
FORMULA: NH4OH, H2O								
SYNONYMS:								
DEPARTMENT OF HAZARD CLASSIFICATION				SHIPPING NAME				
		Ammonium Hydro			xide Solution			
TRANSPORTATION ORM-A Ammonium Hydroxide Solution CHEMICAL ABSTRACT REGISTRY NAME N/A Mixture								
CHEMICAL ABSTRACT REGISTRY		N/A Mix	ture					
		760mm Hg.	< 212	deg.F.				
SPECIFIC GRAVITY (H2O=1)	PRESSURE /	T 20 deg C	20 deg C SOLID			D		
.986	< 760mm Hg.			·	•			
VAPOR DENSITY	SOLUB	SOLUBILITY IN WATER			STATE LI		ID	
(AIR=I) < 1	BY WT. 100			_	1	X		
PERCENT VOLATILES		ATION RATE			GAS	GAS		
BY VOLUME 100	Slower Than	Ether						
APPEARANCE AND ODOR	. .		4.04		•			
Clear, Colorless, Pungent Odor								
III, HAZARDOUS INGREDIENTS			·					
MATERIAL				1%	CAS NO.	TLVR	OSHA PEL	
Ammonium Hydroxide				3-8	1336-21-6	25 PPM	35 PPM	
OTHER INGREDIENTS								
Non-Hazardous					,			
Water				92-97	7732-18-5	N/A	N/A	
IV. PIRE AND EXPLOSION HAZARD DATA								
FLAMMABLE LIMITS IN AIR LOWER			UPPER	FLASH POINT				
% BY VOLUME Ammonia Vapor 16			25	TEST METHOD None				
EXTINGUISHING MEDIA Water Fog								
SPECIAL FIRE FIGHTING UNUSUAL FIRE AND								
PROCEDURES:	EXPLOSION HAZARDS							
Wear self-contained breathing apparatus with full				Closed containers may rupture or explode due to pressure buildup when exposed to extreme heat				
lace lines obstance in beautiful freezens and in the state of the stat								
and full body protection when fighting fires.								
					HILL &	WARKES.	INC.	
V. REACTIVITY DATA STABI	ITY	UNSTABLE	STAI	E X	- PO BOX	7. FDSO	N CT	
CONDITIONS TO AVOID					AMSTER	DAM NV	12010	
				AMSTERDAM, NY 12010 518-842-2410/FAX-1207				
INCOMPATABILITY			· 				,	
(MATERIALS TO AVOID) Avoid of	ontact with	strong acids, h	ypochlorites	, strong alka	ilies, brass, sii	lver, copper	, alkali	
metals,	iron, metal						all the resident for the second	
IIAZARDOUS COMBUSTION OR								
DECOMPOSITION PRODUCTS	May form	toxic materials	•					
HAZARDOUS POLYMERIZATION	MAY O	CCUR WILL	NOT OCC	JR CONE	OT ZNOITI	AVOID		

IVÎ. HEALTH HAZARD DATA PERMISSABLE EXPOSURE LEVEL (OSHA STANDARD) 35 PPM TLV (TIPESHOLD LIMIT VALUE) SOURCE: ACG IH 35PPM (15 Min) OTILER: NIOSH 50PPM (5 Min.) ACUTE EFFECTS OF EXPOSURE DICESTION (SWALLOWING) Nausea, Vomiting, Diarrhea, Irritation and burns to stomach, mouth, throat, etc. INHALATION (BREATHING) Lung irritation, cough, discomfort, difficulty breathing and shortness of breath. Initial symptoms may be followed in hours by severe shortness of breath with severe exposure resulting in pulmonary edems. SKIN (CONTACT AND ABSORPTION) Irritation; prolonged contact can cause blisters and burns EYE (CONTACT) Severe irritation, redness, tearing, blurred vision CHRONIC EFFECTS OF EXPOSURE EMERGENCY AND FIRST AID PROECEDURES EYE (CONTACT) Immediately flush with water for at least 15 minutes. Get medical attention. SKIN (CONTACT) Immediately flush exposed area for 15 minutes, remove contaminated clothing and shoes at once. Throughly launder clothing before re-use. Discard saturated shoes. INCESTION (SWALLOWING) Do not induce vomiting. Dilute by giving water. Give milk of magnesia. Keep warm and quiet. Seek medical attention. INITALATION (BREATHING) If affected remove individual to fresh air. Administer oxygen if needed. Give artificial respiration if breathing has stopped. Keep person warm and quiet and get medical attention. OTHER HEALTH HAZARDS * NOTES TO PHYSICIAN VII. SPILL OR LEAK PROCEDURES. STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED Small spill - absorb with paper, vermitulite, floor absorbent or other absorbent material. Flush area with water. Large spill persons not wearing protective clothing should be kept away. Stop spill at source, dike area to prevent spreading. Absorb liquid per above method. WASTE DISPOSAL METHOD Check with authorities before disposal to assure compliance with all laws. VIII. SPECIAL PROTECTION INFORMATION | RESPRIATORY PROTECTION (SPECIFY TYPE) NIOSH approved. If TLU is exceeded use respirator LOCAL EXHAUST Acceptable MECHANICAL (GENERAL) VENTILATION Acceptable OTHER PROTECTIVE GLOVES Neoprene, Nitrile EYE PROTECTION OSHA approved splash goggles OTHER PROTECTIVE EQUIPMENT Impervious clothing and boots. IX SPECIAL PRECAUTIONS PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING Empty containers may contain hazardous residues. OTHER PRECAUTIONS Ammonia is a reportable chemical on EPA Form R

THIS INFORMATION IS BASED ON DATA BELIEVED BY R.H. CROWN CO., INC. TO BE ACCURATE BUT NO WARRANTY, EXPRESSED OR IMPLIED IS MADE. ALL MATERIALS MAY PRESENT UNKNOWN HAZARDS AND SHOULD BE USED WITH CAUTION.