WARD	D'S	MATER	AL SAF	ETY	DATA SHEET	SECTION V	HEALTH HAZARD DATA					
Natural Science Establishment, Inc. 397 Vansickle Road						Threshold Limited Value	Hydrogen chloride as gas or fume: TWA Ceiling Limits.					
P O Box 92912 Rochester, NY 146	692-9012	815 Fiero Lane	and L25 315	MSDS No			TWA: 5 ppm; 7.5 mg/m ³ (AIR). (ACGIH 1992-93).					
SECTION		San Luis Obispo, C			CY ASSISTANCE	Effects of Overexposure	Hydrochloric acid solutions at these dilutions are not skin or eye irritant, be may be irritant to mucous membranes. <u>INGESTION:</u> May be harmful if swallowed.					
Chemical LL			-	CHEM	-9300 Health 1	Emergency and						
Synonyma -	Hydrochloric Acid, Water Solution Mixture, See Section II.			Day 716-2	Presenting Presenting 1	First Aid Procedures	INGESTION: If swallowed, if conscious, give several glasses of water or to drink. Do NOT induce vomiting. Call physician immediately. Never give					
NF				RD RATIN	IG HMIS*		anything by mouth to an unconscious person. <u>EYES</u> : Flush thoroughly w water for at least 15 minutes, lifting upper and lower eyelids occasionally.					
	lixture. See Section I		LEAST	SLIGHT MOD	2 3 4		medical attention. <u>SKIN:</u> Flush thoroughly with water, then wash with mil soap and water. <u>INHALATION:</u> Remove to fresh air. If illness or discom					
SECTION		NGREDIENTS OI	FMIXTURE	S			develops, get medical attention.					
	omponent(s)			%	TLV Units	SECTION VI	REACTIVITY DATA					
Hydrochloric	Acid: (CAS No. 764	7-01-0)	0).36-3.6%	See Section V.	Stability Unstable Stable	Conditions to Avoid Excessive temperatures or heat.					
Contraction of the second	No. 7732-18-5)	F SWALLOWED. CON		6.4-99.6%	None established.	Incompatibility (Materials to Avoid)	Will react with most metals, alkalies, strong oxidants.					
CAUSE IRRI	ITATION TO SKIN, E	YES AND MUCOUS ME	MBRANES.			Hazardous Decomposition Product	Hydrogen chloride gas maybe evolved by heating. Hydrogen gas evolved by reaction with metals.					
SECTION		PHYSICAL DATA		0 1)		Hazardous Polymerization						
Melting Point (°F) Freezes: Approx. 0°C (32°F) Specific Gravity				₂ O = 1)	1.0	May Occur Will Not Oc						
Boiling Point (°F) Approx. 100°C (212°F) Percent vosaite by Volume (%) Evaporation Ra					100%	X						
Vapor Pressur		ler)	(Water	=1)	~ 1.	SECTION VII Steps to be taken in cas	SPILL OR LEAK PROCEDURES					
Vapor Density						material is released or s						
Solubility in W							with copious amounts of water.					
Appearance &		colorless liquid; may have				Waste Disposal Method	Discharge, treatment, or disposal may be subject to Federal, State or Local laws.					
SECTION Flash Point			le Limits in Air	L	ower Upper	waste Disposal Method	These disposal guidelines are intended for the disposal of catalog-size quantities only.					
(Method Used) Non-flammable. % by Volume							Carefully neutralize with sodium bicarbonate, soda ash, or lime and flush to sewer with copious amounts of water.					
Extinguisher Media	Use any media su	itable for extinguishing s	upporting fire.			SECTION VIII	SPECIAL PROTECTION INFORMATION					
						Respiration Protection None	e needed in normal laboratory handling. In misty conditions work in ventilation ho					
SPECIAL FIRI						Local Exhaus	ear NIOSH/MSHA-approved respirator. st None needed. Special No.					
In fire conditions, wear a NIOSH/MS				-approved s	self-contained breathing	Ventilation Mechanical (
apparatus and full protective clothing.						Protective Gloves	Rubber. Eye Protection Chemical safety glasse					
						Other Protective Equipment Smock,	apron, eye wash station, goggles, ventilation hood, proper gloves.					
(1996 EMERGE	NCY RESPONSE G	UIDEBOOK, DOT P 580	0.7, GUIDE PAG	GE NO. 157	7)	SECTION IX	SPECIAL PRECAUTIONS					
UNUSUAL FIF	REAND					Precautions to be Taken	Store in a cool place.					
EXPLOSION H	HAZARDS					in Handling & Storing Keep container tightly closed when not in use	Wash thoroughly after handling					
		Non-combustible, but c which may form explosi			produce hydrogen	Other Precautions Read	label on container before using. Do not wear contact lenses when working with chemicals. Remove and wash contaminated clothing.					
						For laboratory use only. Not for data	food or household use. Keep out of reach of children.					
						. or aboratory and only. Not for drug,	is a strategy of the bar of brand of official					
						Revision No. 7 Date	6/24/98 Approved Michael Raszeja Chemical Safety MF					

WAR	RD'S	M	ATERIA	L SAFE	TY D	ATA SHEET	SECTION V	second	EALTH HAŻA	RD DATA			HH 9
Natural Science Establishment, Inc.		ent. Inc. 397 \	ansickle Road				Threshold Limited Va	alue	Hydrogen chloride as gas or fume: TWA Ceiling Limits.				
P O Box 92912 Rochester, NY			atharines, Ontario Fiero Lane	٨	MSDS No.	HH 90			TWA: 5 ppm; 7.5 n	ng/m ³ (AIR). (Al	CGIH 1992	2-93).	
716-359-2502 SECTIC	N I	San I NAME	Luis Obispo, CA S	93403-5010	GENC	June 24, 1998 ASSISTANCE	Effects of Overexpos	sure	Hydrochloric acid so may be irritant to m swallowed.				
Product	HYDROCHLO	DRIC ACID, (0.1M - 1M	/ 0.1N - 1N)		CHEMTR				onunonou.				
Chemical Synonyms	Hydrochloric	Acid, Water Solution		I (X)-	00-424-9: av 716-226-	300	Emergency and		INGESTION: If swallowed, if conscious, give several glasses of water or n				
Formula	Mixture. See Section II.					Reactivity 1	First Aid Procedures	es	to drink. Do NOT induce vomiting. Call physician immediately. Never giv anything by mouth to an unconscious person. EYES: Flush thoroughly w				
Unit Size	HA HA			HAZARD		HMIS *			water for at least 15 minutes, lifting upper and lower eyelids occasionally. medical attention. SKIN: Flush thoroughly with water, then wash with mil				
C.A.S. No.	Mixture. See	Section II.		0 1	2	3 4			soap and water. IN	HALATION: R	emove to fi	resh air. If illness	or discomf
SECTIO	N II	INGREDIE	ENTS OF N	MIXTURES	tind of ter				develops, get medic	cal attention.			
Principal	Compone	nt(s)		%	5	TLV Units	SECTION VI		EACTIVITY D		-	a References considered	and the second second
Hydrochl	oric Acid: (CAS	S No. 7647-01-0)		0.36-	3.6%	See Section V.	Stability Unstable Stable	X	Conditions to	Avoid	Excess	ive temperatures o	or heat.
Water: (0	CAS No. 7732-	18-5)		96.4-9	9.6%	None established.	Incompatibility		l				
CAUTION	NI MAY BE HA	RMFUL IF SWALLOV	VED. CONTAC	TMAY			(Materials to Avoid)	Will rea	act with most metals	, alkalies, strong) oxidants.		
		SKIN, EYES AND MI PHYSICA		RANES.			Hazardous Decomposition Produ	ucts	Hydrogen chlori evolved by read			heating. Hydroge	in gas
Melting Poi				ecific Gravity (H2O =	1) 1	0	Hazardous Polymerizati	on	Conditions to	Avoid			
Percent Volatile			rcent Volatile			May Occur Will Not	t Occur			Not app	olicable.		
Evaporation Ra				aporation Rate		00%	SECTION VII	91	PILL OR LEAK		IIRES		
Vapor Pressure (mm Hg) 14 (water) (Water)					=1) -	- 1.	Steps to be taken in o		ILL ON LEAD	THOULD	Oneo		
Solubility in		0.7 (water) Complete.					material is released o	or spille				icarbonate and flus	sh to sewe
Appearance		Clear, colorless liquid	t may have ac	rid odor					with cop	pious amounts o	of water.		
SECTIO				ON HAZAR		Δ	Waste Disposal Meth	od Disc	charge, treatment, or dis	posal may be subj	ject to Federa	al, State or Local laws	s.
Flash Point	Non floor		Flammable Lim	nits in Air	Lower	Upper		Ine	se disposal guidelines a efully neutralize with				
Method Used)									er with copious amo		nate, soua	ash, or little and it	iusii io
Extinguisher Use any media suitable for extinguishing supporting fire.							SECTION VIII	SF	PECIAL PROT	ECTION IN	FORM	ATION	
	L	- 1					Respiration Protection N	one neede	ed in normal laborato	ry handling. In I			ilation hood
	PECIAL FIREFIGHTING ROCEDURES						Local Exha	and the second se	SH/MSHA-approved None needed.	Special	1	No.	
In fire conditions			nditions, wear a NIOSH/MSHA-approved self-contained breathing				Ventilation Mechanica	al (General)	None needed.	Other		No.	
			and full protective clothing.			Protective Gloves		Rubber.	Eye Prote	ction	Chemical safe	ty glasses	
							Other Protective Equipment Smoo	k, apron, e	eye wash station, go	ggles, ventilation	n hood, pro	oper gloves.	
(1996 EMER	GENCY RESPO	ONSE GUIDEBOOK, D	OT P 5800.7,	GUIDE PAGE N	O. 157)		SECTION IX		ECIAL PREC				
JNUSUAL P	FIRE AND						Precautions to be Taken						
	HAZARDS						in Handling & Storing Keep container tightly closed when not in	use,	Store in a cool pla Wash thoroughly				
				t with common m	netals prod	uce hydrogen			ontainer before using. Do not	wear contact lenses i	when working v	with chemicals.	
		which may to	m explosive m	ixtures with air.					Remove and was	h contaminated	clothing.		
							For laboratory use only. Not for dru	ug, food or h	ousehold use. Keep ou	t of reach of childre	en.		