Material Safety Data Sheet

MSDS Update: 04/01/2008
Version: 1.0
Date Printed: 04/02/2008

SECTION 1 - Chemical Product & Company Identification

Product Name	Crystal Screen HT™ Kit
Product Number	HR2-130
Company	Hampton Research
Street Address	34 Journey
City, State, Zip, Country	Aliso Viejo, CA 92656
Technical Phone	949 425 1321
Fax	949 425 1611
Emergency Phone	949 425 1321
For **CHEMTREC** Assistance, call:	800 424 9300
For International **CHEMTREC** Assistance, call:	703 527 3887

SECTION 2 - Composition / Information on Ingredient

Substance Name	CAS #	SARA	RTECS	UN #	HAZARD Code	LD50
(+/-)-2-Methyl-2,4-pentanediol	107-41-5	no	SA0810000		Xi	3700 mg/kg
1,4-Dioxane	123-91-1	yes	JG8225000	1165	F, Xn	5300 mg/kg
1,6-Hexanediol	629-11-8	no	MO2100000			3730 mg/kg
2-Propanol	67-63-0	yes	NT8050000	1219	F, Xi	5045 mg/kg
Ammonium acetate	631-31-8	no	AF3675000	3077		736 mg/kg
Ammonium formate	540-69-2	yes	BQ6650000		Xi	2250 mg/kg
Ammonium phosphate monobasic	7722-76-1	no				5750 mg/kg
Ammonium sulfate	7783-20-2	no	BS4500000			2840 mg/kg
BICINE	150-25-4	no	MB9700000			1540 mg/kg
Cadmium chloride hydrate	654054-66-7	yes		2570	T+, N	
Cadmium sulfate hydrate	7790-84-3	yes	EV2850000	2570	T+, N	
Calcium acetate hydrate	62-54-4	no	AF7525000		Xi	203 mg/kg
Calcium chloride dihydrate	10035-04-8	no	EV9810000		Xi	
Cesium chloride	7647-17-8	no	FK9625000			2600 mg/kg
Cobalt(II) chloride hexahydrate	7791-13-1	yes	GG0200000	3260	T, N	766 mg/kg
Ethanol	64-17-5	no	KQ6300000	1170	F	7060 mg/kg
Ethylene glycol	107-21-1	yes	KW2975000		Xn	4700 mg/kg
Ethylene imine polymer	9002-98-6	no				2800 mg/kg
Glycerol	56-81-5	no	MA8050000			12600 mg/kg
HEPES	7365-45-9	no	TL6809000			
HEPES sodium	75277-39-3	no				
Imidazole	288-32-4	no	NI3325000	2923	C	220 mg/kg
Iron(III) chloride hexahydrate	10025-77-1	no	NO5425000	3260	Xn	260 mg/kg

(CONTINUED) - SECTION 2 - Composition / Information on Ingredient

Substance Name	CAS #	SARA	RTECS	UN#	HAZARD Code	LD50
Jeffamine M-600 ®	77110-54-4	no			Xn	
Lithium sulfate monohydrate	10102-25-7	no			Xn	
Magnesium acetate tetrahydrate	16674-78-5	no	AI5600000			111 mg/kg
Magnesium chloride hexahydrate	7791-18-6	no	OM2975000			8100 mg/kg
Magnesium formate dihydrate	6150-82-9	no				
Magnesium sulfate heptahydrate	10034-99-8	no	OM4508000			
Nickel(II) chloride hexahydrate	7791-20-0	yes	QR6480000	3288	T, N	186 mg/kg
Polyethylene glycol 400	25322-68-3	no	TQ3675000			30200 mg/kg
Polyethylene glycol 1,000	25322-68-3	no	TQ4025000			32000 mg/kg
Polyethylene glycol 1,500	25322-68-3	no	TQ4030000			44200 mg/kg
Polyethylene glycol 4,000	25322-68-3	no	TQ4050000			76000 mg/kg
Polyethylene glycol 6,000	25322-68-3	no				
Polyethylene glycol 8,000	25322-68-3	no	TQ4105000			>50000 mg/kg
Polyethylene glycol 10,000	25322-68-3	no	TQ4110000			50000 mg/kg
Polyethylene glycol 20,000	25322-68-3	no	TQ4110000			50000 mg/kg
Polyethylene glycol monomethyl ether 550	9004-74-4	no	PE8271000			16 mg/kg
Polyethylene glycol monomethyl ether 2,000	9004-74-4	no	PE8271000			16 mg/kg
Polyethylene glycol monomethyl ether 5,000	9004-74-4	no	PE8271000			16 mg/kg
Potassium phosphate monobasic	7778-77-0	no	TC6615500			
Potassium sodium tartrate tetrahydrate	6381-59-5	no				
Sodium acetate trihydrate	6131-90-4	no	AJ4580000			
Sodium cacodylate trihydrate	6131-99-3	yes	CH7890000	1688	T, N	2000 mg/kg
Sodium chloride	7647-14-5	no	VZ4725000			3000 mg/kg
Sodium citrate tribasic dihydrate	6132-04-3	no				
Sodium formate	141-53-7	no	LR0350000			11200 mg/kg
Sodium phosphate monobasic monohydrate	10049-21-5	no				
tert-Butanol	75-65-0	yes	EO1925000	1120	F ,Xn	2743 mg/kg
Tris	77-86-1	no	TY2900000		Xi	5900 mg/kg
Tris hydrochloride	1185-53-1	no			Xi	
Zinc acetate dihydrate	5970-45-6	yes	ZG8750000	3077	Xn, N	794 mg/kg
Zinc sulfate heptahydrate	7446-20-0	yes	ZH5300000	3077	Xn, N	2150 mg/kg
For additional information, please refer to the individual Material Safety Data Sheets(s).						

SECTION 3 - Hazards Identification

HMIS RATING

HEALTH HAZARD: 1
FLAMMABILITY: 1
REACTIVITY: 0

NFPA RATING

HEALTH HAZARD: 1
FLAMMABILITY: 1
REACTIVITY: 0

HAZARD RATINGS

0 - LEAST
1 - SLIGHT
2 - MODERATE
3 - HIGH
4 - EXTREME

For additional information on toxicity, please refer to **SECTION 11**.

SECTION 4 - First Aid Measures

ORAL EXPOSURE

- If swallowed, wash out mouth with water provided person is conscious.
- DO NOT INDUCE VOMITING.
- Call a physician.

INHALATION EXPOSURE

- If inhaled, remove to fresh air.
- If breathing is difficult, GIVE OXYGEN.
- Call a physician.

DERMAL EXPOSURE

- In case of contact, immediately wash skin with soap and copious amounts of water for at least 15 minutes.
- Remove contaminated clothing and shoes.
- Call a physician.

EYE EXPOSURE

- In case of contact with eyes, flush with copious amounts of water for at least 15 minutes.
- Assure adequate flushing by separating the eyelids with fingers.
- Call a physician.

SECTION 5 - Fire Fighting Measures

FLASH POINT

N/A

FLAMMABILITY

N/A

(CONTINUED) - SECTION 5 - Fire Fighting Measures

AUTOIGNITION TEMPERATURE

N/A

EXTINGUISHING MEDIA

• Suitable: Water spray, Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING

• Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

SECTION 6 - Accidental Release Measures

PROCEDURE(S) OF PERSONAL PRECAUTIONS

• Exercise appropriate precautions to minimize direct contact with skin or eyes and prevent inhalation of dust.

METHODS FOR CLEANING UP

• Wash spill site with soap solution. Flush spill area with copious amounts of water.
• Place in appropriate container.

SECTION 7 - Handling & Storage

HANDLING

• User Exposure
  - Avoid inhalation.
  - Avoid contact with eyes, skin, and clothing.
  - Avoid prolonged or repeated exposure.

STORAGE

• Suitable: Keep tightly closed.

SECTION 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

• Mechanical exhaust required.
• Safety shower and eye bath

PERSONAL PROTECTIVE EQUIPMENT

• Respiratory: Use respirators and components tested and approved under appropriate government standards such as (NIOSH) or CEN (EU). Respiratory protection is not required. Where protection from nuisance levels of dust are desired, use type N95 (US) or type (P1) (EN 143) dust masks.

(CONTINUED) - SECTION 8 - Exposure Controls / PPE

- Hand: Compatible chemical-resistant gloves.
- Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES

- Wash thoroughly before and after handling.

SECTION 9 - Physical / Chemical Properties

APPEARANCE **PHYSICAL STATE:** **Liquid**

PROPERTY	VALUE	AT TEMPERATURE OR PRESSURE
Molecular Weight	N/A	
pH	N/A	
BP / BP Range	N/A	
MP / MP Range	N/A	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Concentration	N/A	
SG / Density	N/A	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile %	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	N/A	
Decomposition Temperature	N/A	
Flash Point	N/A	
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temperature	N/A	
Refractive Index	N/A	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

N/A = NOT AVAILABLE

SECTION 10 - Stability & Reactivity

STABILITY

- Stable: Stable.
- Materials to Avoid: Strong oxidizing reagents.

HAZARDOUS DECOMPOSITION PRODUCTS

- Carbon monoxide
- Carbon dioxide

HAZARDOUS EXOTHERMIC REACTIONS

- Will not occur.

HAZARDOUS POLYMERIZATION

- Will not occur.

SECTION 11 - Toxicological Information

ACUTE TOXICITY

- No data available.

IRRITATION AND CORROSION

- No data available.

SENSITISATION

- No data available.

CHRONIC EXPOSURE

- No data available.

ROUTE OF EXPOSURE

- Skin Contact: May cause skin irritation
- Skin Absorption: May be harmful if absorbed through the skin.
- Eye Contact: May cause eye irritation.
- Inhalation: Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.
- Ingestion: May be harmful if swallowed.

SIGNS & SYMPTOMS OF EXPOSURE

- To the best of our knowledge, the chemical, physical, and toxicological properties have NOT been thoroughly investigated.

SECTION 12 - Ecological Information

- No data available.

SECTION 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

- Contact a licensed professional waste disposal service to dispose of this material.
- Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and a scrubber.
- Observe all federal, state, and local environmental regulations.

SECTION 14 - Transportation Information

DOT (US)

- UN- Number: 3316
- Class: N/A
- Proper Shipping Name: Chemical kits or First aid kits (containing hazardous materials)
- Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA

- UN- Number: 3316
- Class: N/A
- Proper Shipping Name: Chemical kits or First aid kits (containing hazardous materials)
- Non-Hazardous for Transport: Non-hazardous for air transport.

SECTION 15 - Regulatory Information

OSHA HAZARDS

- N/A

TSCA STATUS

- N/A

EU ADDITIONAL INFORMATION

Substance Name	CAS #	HAZARD Code	R-Phrase	S-Phrase
(+/-)-2-Methyl-2,4-pentanediol	107-41-5	Xi	36/38	26-36
1,4-Dioxane	123-91-1	F, Xn	11-19-36/37-40-66	9-16-36/37-46
1,6-Hexanediol	629-11-8			23-24/25-36/37
2-Propanol	67-63-0	F, Xi	11-36-67	7-16-24/25-26
Ammonium formate	540-69-2	Xi	36/37/38	26-36
Cadmium chloride hydrate	654054-66-7	T+, N	45-46-60-61-25-26-48/23/25-50/53	53-45-60-61
Cadmium sulfate hydrate	7790-84-3	T+, N	45-46-60-61-25-26-48/23/25-50/53	53-45-60-61
Calcium acetate hydrate	62-54-4	Xi	36/37/38	26-36
Calcium chloride dihydrate	10035-04-8	Xi	36	26
Cobalt(II) chloride hexahydrate	7791-13-1	T, N	49-22-42/43-50/53	53-22-45-60-61
Ethanol	64-17-5	F	11	7-16
Ethylene glycol	107-21-1	Xn	22	
Imidazole	288-32-4	C	22-34	26-36/37/39-45

(CONTINUED) - SECTION 15 - Regulatory Information

EU ADDITIONAL INFORMATION

Substance Name	CAS #	HAZARD Code	R-Phrase	S-Phrase
Iron(III) chloride hexahydrate	10025-77-1	Xn	22-38-41	26-39
Jeffamine M-600 ®	77110-54-4	Xn	21/22-36-38	26-36/37
Lithium sulfate monohydrate	10102-25-7	Xn	22	
Nickel(II) chloride hexahydrate	7791-20-0	T, N	45-25-36/38-43-50/53	53-36/37-45-60-61
Magnesium acetate tetrahydrate	16674-78-5			22-24/25
Magnesium formate dihydrate	6150-82-9			22-24/25
Potassium sodium tartrate tetrahydrate	6381-59-5			22-24/25
Sodium cacodylate trihydrate	6131-99-3	T, N	23/25-50/53	20/21-28-45-60-61
tert-Butanol	75-65-0	F, Xn	11-20	9-16
Tris	77-86-1	Xi	36/37/38	26-36
Tris hydrochloride	1185-53-1	Xi	36/37/38	26/36
Zinc acetate dihydrate	5970-45-6	Xn, N	22-36-50/53	20-60-61
Zinc sulfate heptahydrate	7446-20-0	Xn, N	22-41-50/53	22-26-39-46-60-61

UNITED STATES REGULATORY INFORMATION

SARA 313 COMPONENTS:

• Component	• CAS#	• Revision Date
1,4-Dioxane	123-91-1	
2-Propanol	67-63-0	1987-01-01
Ammonium formate	540-69-2	1987-01-01
Cadmium chloride hydrate	654054-66-7	
Cadmium sulfate hydrate	7790-84-3	
Cobalt(II) chloride hexahydrate	7791-13-1	1987-01-01
Ethylene glycol	107-21-1	1987-01-01
Nickel(II) chloride hexahydrate	7791-20-0	
Sodium cacodylate trihydrate	6131-99-3	
tert-Butanol	75-65-0	1987-01-01
Zinc acetate dihydrate	5970-45-6	
Zinc sulfate heptahydrate	7446-20-0	1987-01-01

• SARA LISTED: For additional information on toxicity, please refer to **SECTION 2**.

CANADA REGULATORY INFORMATION

• WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

• DSL: Yes

• NDSL: No

OSHA HAZARDS

• N/A

(CONTINUED) - SECTION 15 - Regulatory Information

TSCA STATUS

- N/A

SECTION 16 - Other Information

DISCLAIMER

- For R&D use only. Not for drug, household, or other use.

WARRANTY

- The above inforamtion is believed to be correct but does no purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of this product. Hampton Research Corp., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.
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