

MATERIAL SAFETY DATA SHEET

Date Updated: 02/17/2006

Section 1 - Chemical Product and Company Identification

Product Name Additive Screen Kit

Product Number HR2-428

Company Hampton Research

Street Address 34 Journey

City, State, Zip, Country Aliso Viejo, CA 92656-3317 USA

Technical Phone: 949 425 1321

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 313	RTECS	LD50
Barium chloride	10326-27-9	<2	Yes	CQ8751000	51 mg / kg
Cadmium chloride	72589-96-9	<2	Yes	EV0177000	50 mg / kg
Calcium chloride	10035-04-8	<1	No	EV9810000	20500 mg / kg
Cobalt chloride	7791-13-1	<2	Yes	GG0200000	766 mg / kg
Copper chloride	7447-39-4	<2	Yes	GL7000000	190 mg / kg
Magnesium chloride	7791-18-6	<2	No	OM2975000	8100 mg / kg
Manganese chloride	13446-34-9	<2	Yes	OO9650000	1484 mg / kg
Strontium chloride	10025-70-4	<2	No	WK8575000	1253 mg / kg
Yttrium chloride	10361-92-9	<2	No	ZG3150000	45 mg / kg
Zinc chloride	7646-85-7	<2	Yes	ZH1400000	350 mg / kg
Ferric chloride	10025-77-1	<2	No	NO5425000	260 mg / kg
Nickel chloride	7791-20-0	<2	Yes	QR6480000	186 mg / kg
Chromium chloride	10060-12-5	<3	Yes	GB5450000	1790 mg / kg
Praseodymium acetate	334869-74-8	<4	No	N/A	N/A
Ammonium sulfate	7783-20-2	<14	No	BS4500000	2840 mg / kg
Potassium chloride	7447-40-7	<8	No	TS8050000	56 mg / kg
Lithium chloride	7447-41-8	<5	No	OJ5950000	526 mg / kg
Sodium chloride	7647-14-5	<12	No	VZ4725000	3000 mg / kg
Sodium fluoride	7681-49-4	<3	No	WB0350000	52 mg / kg
Sodium iodide	7681-82-5	<15	No	WB6475000	4340 mg / kg
Sodium thiocyanate	540-72-7	<17	No	XL2275000	764 mg / kg
Potassium sodium tartrate	6381-59-5	<29	No	N/A	N/A
tri-Sodium citrate	6132-04-3	<30	No	N/A	N/A
Cesium chloride	7647-17-8	<17	No	FK9625000	2600 mg / kg
Sodium malonate	141-95-7	<11	No	OO1750000	1100 mg / kg

Substance Name	CAS #	%	Sara 313	RTECS	LD50
l-Proline	147-85-3	< 2	No	TW3584000	N/A
Phenol	108-95-2	< 1	Yes	SJ3325000	410 mg / kg
Dimethyl sulfoxide	67-68-5	< 33	No	PV6210000	3300 mg / kg
Sodium bromide	7647-15-6	< 2	No	VZ3150000	2,000 mg / kg
6-Aminocaproic acid	60-32-2	< 30	No	MO6300000	7 g / kg
1,5-Diaminopentane dihydrochloride	1476-39-7	< 30	No	N/A	N/A
1,6-Diaminohexane	124-09-4	< 30	No	MO1180000	750 mg / kg
1,8-Diaminooctane	373-44-4	< 30	No	RG8841500	N/A
Glycine	56-40-6	< 8	No	MB7600000	7930 mg / kg
Triglycine	556-33-6	< 7	No	N/A	N/A
Taurine	107-35-7	< 2	No	WX0175000	5000 mg / kg
Betaine Hydrochloride	590-46-5	< 2	No	BP3136000	8000 mg / kg
Spermidine	124-20-9	< 2	No	EJ7000000	78 mg / kg
Spermine tetrahydrochloride	306-67-2	< 4	No	EJ7230000	370 mg / kg
Hexammine cobalt	10534-89-1	< 3	Yes	N/A	N/A
Sarcosine	107-97-1	< 1	No	VQ2897000	N/A
Trimethylamine hydrochloride	593-81-7	< 1	No	YH2700000	325 mg / kg
Guanidine hydrochloride	50-01-1	< 10	No	MF4300000	475 mg / kg
Urea	57-13-6	< 1	No	YR6250000	8471 mg / kg
NAD	53-84-9	< 7	No	UU3450000	4333 mg / kg
ATP	987-65-5	< 6	No	N/A	N/A
TCEP hydrochloride	51805-45-9	< 3	No	N/A	3500 mg / kg
GSH / GSSG	70-18-8 / 27025-41-8	< 1	No	N/A	5000 mg / kg
EDTA	6381-92-6	< 4	No	AH4410000	2000 mg / kg
Polyvinylpyrrolidone K15	9003-39-8	< 5	No	N/A	100000 mg / kg
Dextran sulfate	9011-18-1	< 5	No	HH9290000	20600 mg / kg
Pentaerythritol ethoxylate	30599-15-6	< 50	No	N/A	N/A
PEG 3350	25322-68-3	< 10	No	N/A	N/A
Glucose	14431-43-7	< 30	No	N/A	N/A
Sucrose	57-50-1	< 30	No	N/A	29700 mg / kg
Xylitol	87-99-0	< 30	No	N/A	16500 mg / kg
Sorbitol	50-70-4	< 30	No	N/A	15900 mg / kg
Inositol	87-89-8	< 12	No	NM7520800	3000 mg / kg
Trehalose	6138-23-4	< 30	No	N/A	N/A
Galactose	59-23-4	< 30	No	N/A	475000 mg / kg
Ethylene glycol	107-21-1	< 30	Yes	KW2975000	786 mg / kg
Glycerol	56-81-5	< 30	No	MA8050000	12600 mg / kg
NDSB	N/A	< 60	No	N/A	N/A
1,2,3-Heptanetriol	103404-57-5	< 15	No	N/A	N/A
Benzamidine hydrochloride	206752-36-5	< 20	No	N/A	N/A
LDAO	1643-20-5	< 5	No	JR6650000	271 mg / kg

Substance Name	CAS #	%	Sara 313	RTECS	LD50
TMAO	62637-93-8	< 30	No	YH2850000	8700 mg / kg
1,6-Hexanediol	629-11-8	< 30	No	MO2100000	3730 mg / kg
MPD	107-41-5	< 30	No	SA0810000	3700 mg / kg
PEG 400	25322-68-3	< 50	No	TQ3675000	30200 mg / kg
2,5-Hexanediol	2935-44-6	< 40	No	MO2275000	2000 mg / kg
1,3-Butanediol	107-88-0	< 40	No	N/A	18960 mg / kg
Polypropylene glycol					
P 400	25322-69-4	< 40	No	TR5250000	2000 mg / kg
Dioxane	123-91-1	< 30	Yes	JG8225000	4200 mg / kg
Ethanol	64-17-5	< 30	No	KQ6300000	7060 mg / kg
iso-Propanol	67-63-0	< 30	Yes	NT8050000	5272 mg / kg
Methanol	67-56-1	< 30	Yes	PC1400000	6422 mg / kg
1,4-Butanediol	110-63-4	< 40	No	EK0525000	429 mg / kg
tert-Butanol	75-65-0	< 40	Yes	EO1925000	2743 mg / kg
1,3-Propanediol	504-63-2	< 40	No	TY2010000	4780 mg / kg
Acetonitrile	75-05-8	< 40	Yes	AL7700000	2460 mg / kg
γ-Butyrolactone	96-48-0	< 40	No	LU3500000	1540 mg / kg
n-Propanol	71-23-8	< 40	No	UH8225000	1870 mg / kg
Ethyl acetate	141-78-6	< 5	No	AH5425000	5620 mg / kg
Acetone	67-64-1	< 40	No	AL3150000	5800 mg / kg
Dichloromethane	75-09-2	< 1	Yes	PA8050000	375 mg / kg
n-Butanol	71-36-3	< 7	Yes	EO1400000	2500 mg / kg
TFE	75-89-8	< 40	No	KM5250000	240 mg / kg
HFP	920-66-1	< 40	No	UB6450000	1500 mg / kg

Please refer to the formulation sheet for exact formula composition.

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Irritant.

Irritating to eyes, respiratory system, and skin.

NFPA RATING

HEALTH: 2

FLAMMABILITY: 0

REACTIVITY: 0

HMIS RATING

HEALTH: 2

FLAMMABILITY: 0

REACTIVITY: 0

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.

Call a physician.

INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE

In case of contact, immediately wash skin with soap and copious amounts of water.

EYE EXPOSURE

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

Section 5 - Fire Fighting Measures

FLASH POINT

N/A

AUTOIGNITION TEMPERATURE

N/A

FLAMMABILITY

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.

Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING

User Exposure: Do not breathe vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep tightly closed. Store at 2-8°C.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Mechanical exhaust required. Safety shower and eye bath.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Government approved respirator.

Hand: Compatible chemical-resistant gloves.

Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Property Value at Temperature or Pressure

Molecular Weight	N/A
pH	N/A
BP/BP Range	N/A
MP/MP Range	N/A
Appearance Physical State:	Liquid
Freezing Point	N/A
Vapor Pressure	N/A
Vapor Density	N/A
Saturated Vapor Concentration	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

SG/Density N/A
Bulk Density N/A

N/A = Not Available

Section 10 - Stability and Reactivity

STABILITY

Stable: Stable.

Materials to Avoid: Strong oxidizing agents, Strong Bases.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Nature of decomposition products not known.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: Causes eye irritation.

Inhalation: Material is irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.

Ingestion: May be harmful if swallowed.

SIGNS AND SYMPTOMS OF EXPOSURE.

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

TOXICITY DATA

Oral

Rat

2840 MG / KG

LD50

Remarks: Behavioral: Somnolence (general depressed activity).

Behavioral: Muscle contraction or spasticity. Lungs, Thorax, or

Respiration: Other changes.

Oral

Mouse

640 MG / KG

LD50

Remarks: Behavioral: Somnolence (general depressed activity).

Behavioral: Muscle contraction or spasticity. Lungs, Thorax, or

Respiration: Other changes.

Intraperitoneal

Mouse

610 MG/KG

LD50

Remarks: Behavioral: Tremor. Behavioral: Convulsions or effect on seizure threshold. Lungs, Thorax, or Respiration: Dyspnea.

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed or 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 scrubber. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: None.

Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA

Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information

EU ADDITIONAL CLASSIFICATION

S: 24/25

Safety Statements: Avoid contact with skin and eyes.

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

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Irritant.

Risk Statements: Irritating to eyes, respiratory system and skin.

Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: No

TSCA INVENTORY ITEM: Yes

Section 16 - Additional Information

DISCLAIMER

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

WARRANTY

The above information is believed to be correct but does not 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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