



MATERIAL SAFETY DATA SHEET

Division of BioCerax, Inc.

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SECTION I - Identification

Product Name: **RA22 FIXER** Date : September 30, 2000
MSDS # : 62 61XX
Chemical Family : Aqueous Acidic Solution
Medical Emergency Telephone : (708) 640 4800
Transportation Emergency Telephone : CHEMTREC® 1 (800) 424 9300 Revision Date: 3/22/02

SECTION II - Hazardous Components (Typical Values)

INGREDIENTS	CAS NO.	WT%	ACGIH(TLV)	OSHA(PEL)
Ammonium Thiosulfate	7783-18-8	15-20	None	None
Ammonium Thiocyanate	1762-95-4	6-8	None	None
Acetic Acid	64-19-7	1-2	10 ppm	10 ppm

SECTION III - Physical / Chemical Data

Boiling Point	: > 212°F	Solubility in Water (by Weight)	: 100%
Melting Point	: Not Applicable	Specific Gravity (H ₂ O = 1)	: 1.150
Vapor Pressure	: Same as water	Composite Vapor Pressure	: Not Applicable
Vapor Density (AIR = 1)	: Same as water	pH	: 4.80
Evaporation Rate	: Same as water	Appearance	: Clear and colorless
Volatile Fraction by Weight	: Same as water	Odor	: Vinegar odor
Volatile Organic Compound	: Not Applicable		

SECTION IV - Fire and Explosion Hazard Data

Flash Point : Not flammable
Flammable Limits in Air : Lower : None Upper: None
Extinguishing Media : Any extinguishing media applicable to the surrounding area.
Special Fire Fighting Procedures : Evacuate personnel to a safe area. Keep personnel away from and upwind of fire.
Wear self-contained breathing apparatus.
Unusual Fire and Explosion Hazards : When heated to decomposition, emission of toxic fumes are possible.

SECTION V - Health Hazard Data / SARA - Title III Hazard Categories

- A. Acute Exposure Effects (Note: pertains to finished product)
- Eye contact : May cause irritation and burns.
 - Skin contact : May cause skin irritation.
 - Inhalation : Normally not a problem, but inhalation of mist could cause respiratory irritation.
 - Ingestion : May cause irritation of mucous membranes or digestive tract.
- B. First Aid (Applies to finished Product)
- Eyes : Immediately flush with plenty of running water for at least 15 minutes. Obtain medical attention.
 - Skin : Flush affected areas promptly with water for 15 minutes. Remove contaminated clothing.
 - Inhalation : For over-exposure, remove to fresh air.
 - Ingestion : Drink milk or water. Do not induce vomiting. Obtain immediate medical attention.
- C. Chronic Health Effects (Note: Pertains to each ingredient listed in section 2 per 29 CFR Sect. 1910.1200)
- A computerized literature search of national databases did not yield any chronic effects associated with these materials
- Carcinogenicity Listing: NTP = No IAR = No OSHA = No

SECTION VI - Reactivity Data

Stability	: Stable.
Incompatibility	: Strong acids and strong alkalis.
Hazardous Decomposition Products	: With acids - sulfur dioxide gas. With alkalis - ammonia gas.
Hazardous Polymerization	: Will not occur.

SECTION VII - Disposal Information**Spill, Leak or Release**

NOTE: Review Section IV and VIII before proceeding with clean up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean up. Dike spill. Prevent liquid from entering sewers, waterways or low areas. Soak up with sand, oil dry or other absorbent material. Spill may be neutralized with Sodium Carbonate.

Waste Disposal

Recover non-usable free liquid and/or contaminated water, and dispose of in an approved and permitted treatment system. Remove non-usable solid material and/or contaminated soil, for disposal in an approved and permitted landfill. Discharge to sewer requires approval of permitting authority and may require pre-treatment.

SECTION VIII - Special Protection Information

- A. Respiratory Protection : Sufficient room ventilation.
- B. Skin and Eye Protection : Splash protection is suggested, e.g., eyeglasses with side shields, gloves and aprons.

SECTION IX - Storage Conditions

Store in a well ventilated area. Keep container tightly closed. Do not store with incompatible materials (See Section VI). Do not store or consume food, drink or tobacco in an area where they may become contaminated with this material.

SECTION X - Hazardous Transportation Regulations

NON REGULATED

SECTION XI - Hazard Communication

0 = Insignificant	HEALTH	= 1
1 = Slight	FLAMMABILITY	= 0
2 = Moderate	REACTIVITY	= 0
3 = High	SPECIAL	
4 = Extreme		

SECTION XII - TSCA Information

TSCA Listing : All ingredients in this finished product are listed on the EPA TSCA Inventory (See Section II).

SECTION XIII - Federal EPA - SARA Title III Notification

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual reports of release of toxic chemicals that appear in 40 CFR 372 (FOR SARA 313).

Components present in this product at a level which could require reporting under the statute are:

Chemical	CAS #	Upperbound Concentration - %
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*** NONE ***

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September 30, 2000