

MATERIAL SAFETY DATA SHEET

This MSDS complies with OSHA'S Hazard Communication Standard 29 CFR 1910.1200 and OSHA Form 174

IDENTITY AND MANUFACTURER'S INFORMATION	
NFPA Rating: Health-3; Flammability-0; Reactivity-0; Special- - Manufacturer's Name: Rite-Kem, Inc. Address: 703 Westmoreland Dr. Address: Tupelo, MS 38803-3454	HMIS Rating: Health-3; Flammability-0; Reactivity-0; Personal Protection-B DOT Hazard Classification: Corrosive Material IMDG: SULFAMIC ACID, 8, UN 2967, PG III CHEMICAL NAME AND SYNONYMS: Amidosulfonic Acid, Amidosulfuric Acid, Aminosulfonic Acid FORMULA: H3NO3S CHEMICAL FAMILY: Inorganic Acid Identity (trade name as used on label): <div style="text-align: center;">DESCALER (SULFAMIC ACID)</div>
Date Prepared: 02/14/2000 Prepared By: ml	NSN: 6850-00-637-6142 Revision - 2
Information Calls: (662)840-6060 Emergency Response Number: 1-800-424-9300	NOTICE: JUDGEMENT BASED ON INDIRECT TEST DATA

SECTION 1 - MATERIAL IDENTIFICATION AND INFORMATION

COMPONENTS-CHEMICAL NAMES AND COMMON NAMES (Hazardous Components 1% or greater; Carcinogens 0.1% or greater)	CAS Number	SARA III LIST	OSHA PEL (ppm)	ACGIH TLV (ppm)	Carcinogen Ref. Source **
Sulfamic Acid	5329-14-6		N/A	N/A	N/A

SECTION 2 - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point: 209C - Decomposes	Specific Gravity (H2O=1): 2.126
Melting Point: 215C to 225C	Volatiles / Vol (%): N/A
Vapor Pressure: PSIG @ 70°F (Aerosols): N/A	Vapor Pressure (Non-Aerosols)(mm Hg and Temperature): N/A
Vapor Density (Air = 1): N/A	Evaporation Rate (water = 1): N/A
Solubility in Water: 18% @ 200C	Water Reactive: No
Appearance and Odor: White, crystalline solid, no odor	

SECTION 3 - FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY as per USA FLAME PROJECTION TEST (aerosols) N/A	Auto Ignition Temperature N/A	Flammability Limits in Air by % in Volume: % LEL: N/A % UEL: N/A
FLASH POINT AND METHOD USED (non-aerosols): N/A	EXTINGUISHER MEDIA: Dry chemical, carbon dioxide, water spray, or standard foam.	
SPECIAL FIRE FIGHTING PROCEDURES: Wear full protective clothing and self contained breathing apparatus. Water solution of sulfamic acid is strongly acidic. Move containers from fire area if possible. Cool containers exposed to flames with water from side until well after fire is out.		
Unusual Fire & Explosion Hazards: May release sulfur dioxide, sulfur trioxide, and ammonia gas if involved in fire.		

SECTION 4 - REACTIVITY HAZARD DATA

STABILITY [X] STABLE [] UNSTABLE	HAZARDOUS POLYMERIZATION [] WILL [X] WILL NOT OCCUR
Incompatibility (Mat. to avoid): Chlorine, potassium chloride, nitric acid, metal sulfides, nitrates and nitrites, bases and bromine gas.	Conditions to Avoid: May accumulate in tanks and hopper cars. May ignite combustible wood, paper, oil, etc.
Hazardous Decomposition Products: Thermal decomposition products may include toxic and corrosive fumes of ammonia, and toxic oxides of nitrogen and sulfur.	

SECTION 5 - HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY: [] INHALATION [] INGESTION [X] SKIN ABSORPTION [X] EYE [] NOT HAZARDOUS	
ACUTE EFFECTS Harmful if swallowed, inhaled, or absorbed through skin. Material is extremely destructive to tissue of the mucus membranes and upper respiratory tract, eyes and skin. Inhalation may be fatal as a result of spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema. Corrosive. Causes burns.	
Inhalation: Causes irritation to mucous membranes.	
SYMPTOMS OF EXPOSURE MAY INCLUDE: Burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting.	
Eye Contact: Irritating	Skin Contact: Irritating
Ingestion: May cause diarrhea, nausea.	
CHRONIC EFFECTS: Prolonged exposure to will cause moderate irritation to skin, eyes and mucous membrane.	
Medical Conditions Generally Aggravated by Exposure: None known.	

EMERGENCY FIRST AID PROCEDURES

Eye Contact: Flush with water for 15 minutes, then apply an isotonic solution. Remove contaminated clothing, and shoes immediately. If irritation persists, get medical attention.
Skin Contact: Flush with water for 15 minutes. Insure adequate flushing of the eyes by separating the eyelids with fingers. If irritation persists, get medical attention.
Inhalation: Remove to fresh air. If not breathing give artificial respiration. If breathing is difficult give oxygen. Place in care of emergency medical personnel.
Ingestion: Washout mouth with water if person is conscious. Drink 3 to 4 glasses of water or milk. If vomiting persist, administer fluids repeatedly. Get immediate medical attention.

SECTION 6 - CONTROL AND PROTECTIVE MEASURES

Respiratory Protection (specify type): Approved respirator for dust or fumes.	
Protective Gloves: Rubber or type that is impervious to prevent skin contact.	Eye Protection: Splash goggles or face shield required for fumes, dust or heat.
Ventilation Requirements: Provide local exhaust or general dilution ventilation system	
Other Protective Clothing & Equipment: Protective (impervious) clothing and equipment to prevent any possible skin contact	
Hygienic Work Practices: Wash face, hands and exposed skin after use.	

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE
Steps To Be Taken If Material Is Spilled Or Released: Stop leak if it can be done without risk.
Waste Disposal Methods: Dispose of in accordance with all local, state and federal regulations.
Precautions To Be Taken In Handling & Storage: Store in original shipping containers. Keep closed when not in use. Prevent from absorption of moisture and possible caking. Should be stored in a cool and dry place. Do not store with cyanides, sulfides, chlorides, hypochlorous acid or hypochlorites.
Other Precautions &/or Special Hazards: KEEP OUT OF REACH OF CHILDREN. Read & follow label directions.

SECTION 7 – TRANSPORT INFORMATION

US Department of Transportation

Shipping Name: SULFAMIC ACID, 8, UN 2967, PG III
Hazard Class: CORROSIVE
Label: CORROSIVE

IMDG:

Proper Shipping Name: SULFAMIC ACID
Hazard Classification: 8 (Corrosive)
International Marine UN Number: UN2967
Packing Group: II
Flash point (test method) N/A
Label: SULFAMIC ACID, 8, UN 2967, PG II

Section 8 – OTHER REGULATORY INFORMATION

IRRITATION DATA

SKIN – HMN 4%/5D- I MLD	JHTAB 25, 26, 43
SKN – RBT 500 MG/ 24H SEV	28ZPAK - 18, 72
EYE – RBT 20 MG MOD	JHTAB 25, 26, 43
EYE – RBT 250 UG/ 24H SEV	28ZPAK -, 18, 72

TOXICITY DATA

ORL – RAT LD50 : 3160 MG/KG	28ZPAK -, 18, 72
ORL – MUS LD50 : 1312 MG/KG	GISAAA 52 (10), 88, 87
ORL – GPG LD50 : 1050 MG/KG	GISAAA 52 (10), 88, 87

TARGET ORGAN DATA

BEHAVIOR (ALTERED SLEEP TIME)
BEHAVIORAL (EXCITEMENT)
BEHAVIORAL (RIGIDITY)

Only selected registry of toxic effects of chemical substances (RTECS) data is presented here. See actual entry in RTECS for complete information.

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind.

** Chemical Listed as Carcinogen or Potential Carcinogen. [a] NTP [b] IARC Monograph [c] OSHA [d] Not Listed [e] Animal Data Only