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KR-69L

MATERIAL SAFETY DATA SHEET

FOR EMERGENCY ASSISTANCE
CALL: 1-800-424-9300 CHEMTREC

FOR ADDITIONAL INFORMATION
CALL: 412-826-3066

SECTION 1: PRODUCT IDENTIFICATION

PRODUCT NAME: **KR-69L**
CHEMICAL DESCRIPTION: Aqueous bisulfite solution
PRODUCT CLASS: Boiler Water
VERSION: 1-19-2012

SECTION 2: INFORMATION ON INGREDIENTS

Chemical Name	CAS #	Weight %	OSHA PEL	ACGIH TLV
Sodium bisulfite	7631-90-5	38- 42	TWA: 5 mg/m ³	TWA: 5 mg/m ³

SECTION 3: HAZARDS IDENTIFICATION

*****EMERGENCY OVERVIEW*****

Clear, pale yellow liquid.

WARNING!

May cause eye, skin and respiratory tract irritation.

Ingestion is hazardous to health.

May cause severe allergic reaction in some asthmatics and sulfite sensitive individuals.

Product is corrosive to mild steel and aluminum.

PRIMARY ROUTES OF ENTRY: Eye contact, skin contact, ingestion, and inhalation

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Some individuals are said to be dangerously sensitive to minute amounts of sulfites in foods. Symptoms may include bronchoconstriction, shock, gastrointestinal disturbances, swelling, flushing, and tingling sensations.

POTENTIAL HEALTH EFFECTS:

EYE CONTACT: Contact may cause eye irritation, redness, and pain. If left untreated, eye burns may occur. Vapors from this product are irritating to the eyes.

SKIN CONTACT: Contact may cause skin irritation with reddening, swelling, rash, scaling, or blistering.

INGESTION: Ingestion may cause gastric irritation due to the liberation of sulfurous acid. Very large doses may cause violent colic and diarrhea, bone marrow effects, circulatory disturbances, and central nervous system depression. Ingestion may cause severe allergic reactions in some asthmatics and sulfite sensitive people. The allergic reaction may be characterized by nausea, diarrhea, itching, swelling, hives, acute asthma attack (possibly life-threatening), loss of consciousness or anaphylactic shock.

INHALATION: Vapors of this product may cause respiratory tract irritation. Sulfite-sensitive individuals, upon inhalation of this product, may experience an allergic reaction similar to that described under **INGESTION**. The product may also give off sulfur dioxide gas upon heating or during reaction.

SUBCHRONIC, CHRONIC: No adverse health effects are expected to result from subchronic or chronic exposure to the product in the industrial workplace.

CARCINOGENICITY:

NTP: No ingredients listed in this section

IARC: No ingredients listed in this section

OSHA: No ingredients listed in this section

SECTION 4: FIRST AID MEASURES

EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes lifting upper and lower eyelids to ensure complete rinsing. Obtain medical attention immediately.

SKIN CONTACT: Immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing. Seek medical aid if irritation persists. Wash clothing before reuse.

INGESTION: Do NOT induce vomiting unless directed to do so by a physician or poison control center. If victim is alert and not convulsing, rinse out mouth with water and give 1 glass of water to drink to dilute material. If spontaneous vomiting occurs, have victim lean forward with head down to avoid aspiration of vomitus, rinse mouth, and administer more water. Contact a physician or the local poison control center immediately.

INHALATION: If inhaled, remove victim to fresh air. If breathing stops, give artificial respiration. If breathing is difficult, have a trained medical person give oxygen. Seek medical aid.

SECTION 5: FIRE-FIGHTING MEASURES

FLASHPOINT: None

This product is not by definition a "flammable liquid" or a "combustible liquid".

LOWER FLAMMABLE LIMIT: Not applicable

UPPER FLAMMABLE LIMIT: Not applicable

AUTO-IGNITION TEMPERATURE: Not available

EXTINGUISHING MEDIA: Use water, foam, dry chemical, or carbon dioxide fire extinguishers as appropriate to fight surrounding fires.

FIRE-FIGHTING INSTRUCTIONS: Exercise caution when fighting any chemical fire. A self-contained breathing apparatus and protective clothing are essential.

FIRE & EXPLOSION HAZARDS: Burning produces extremely toxic and corrosive sulfur dioxide gas.

DECOMPOSITION PRODUCTS: Sulfur dioxide, disodium oxide, and sodium sulfide.

NFPA RATINGS: Health = 2 Flammability = 0 Reactivity = 1

Hazard rating scale: 0=Minimal; 1=Slight; 2=Moderate; 3=Serious; 4=Severe

SECTION 6: ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Only trained personnel equipped with a NIOSH/MSHA approved, full face piece combination dust/mist & acid gas respirator should be permitted in the area of the spill. Dike area to contain spill in order to prevent contamination of sewage system or waterway. Reclaim as much material as possible. Dilute remaining material with a large quantity of water, and then neutralize with soda ash. Ventilate area well, since sulfur dioxide and carbon dioxide may be released during neutralization. Dispose of according to federal, state, and local regulations.

SECTION 7: HANDLING AND STORAGE

HANDLING:

Avoid contact with eyes, skin, and clothing.

Avoid breathing vapor or mist.

Use with adequate ventilation.
Wash thoroughly after handling.
Do not take internally.
Keep containers closed when not in use.
Ensure that containers are properly labeled.
Have emergency equipment (for fires, spills, leaks, etc.) readily available.

STORAGE:

Store product in a cool, well-ventilated area away from incompatible materials.
Protect product containers from physical damage.
Since empty containers retain product residues (vapors, liquid), observe all warnings and precautions listed for the product.
Prolonged storage of drums containing bisulfites may result in the evolution of sulfur dioxide. Only open containers in areas with adequate ventilation.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

EYE/FACE PROTECTION: Chemical splash goggles

SKIN PROTECTION: Chemical resistant gloves and body covering clothing

RESPIRATORY PROTECTION: If airborne concentrations exceed published exposure limits, use a NIOSH approved respirator in accordance with OSHA respiratory protection requirements (29 CFR 191 0.134).

ENGINEERING CONTROLS: Use local and/or general exhaust ventilation to maintain airborne concentrations below exposure limits.

WORK PRACTICES: An eye wash station and safety shower should be accessible in the immediate area of use.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

pH: 3.0-5.0

SPECIFIC GRAVITY: 1.28 to 1.38 g/mL @ 77 °F (25 °C)

SOLUBILITY IN WATER: Complete

BOILING POINT: >212 °F (>100 °C)

FREEZING POINT: 38 °F (3.3 °C)

VAPOR PRESSURE (REID): 78 mm Hg @ 99.9 °F (37.7 °C)

VAPOR DENSITY: (air=1): Not available

APPEARANCE AND ODOR: Clear, pale yellow liquid with an odor of sulfur dioxide.

SECTION 10: STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable

HAZARDOUS POLYMERIZATION: Will not occur

CONDITIONS TO AVOID: Avoid overheating. Temperature at or near 216 °F (102 °C) causes the evolution of toxic and corrosive sulfur dioxide gas.

INCOMPATIBILITY: Oxidizers, acids, steel, aluminum. Oxidizers may react with sodium bisulfite in strongly exothermic manner. Acids react with sodium bisulfite to produce toxic and corrosive sulfur dioxide gas.

DECOMPOSITION PRODUCTS: Sulfur dioxide, disodium oxide, and sodium sulfide.

SECTION 11: TOXOLOGICAL INFORMATION

ON PRODUCT:

Toxicological data on chronic effects: Little information is available about the health significance of low-level chronic sulfite exposure (including production within the body), but sulfite and bisulfite react irreversibly through free radical formation and otherwise with various substances in the body including DNA. Sodium sulfite has been demonstrated to be mutagenic in microbial systems; however, it is not mutagenic in studies involving insects and is not considered to present a mutagenic threat to humans.

ON INGREDIENTS:

Test Material	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 (rat)
Sodium bisulfate	2,000 mg/Kg	Not available	Not available

SECTION 12: ECOLOGICAL INFORMATION

ON INGREDIENTS:

Test Material	Aquatic Toxicity Data
Product	48 hr LC50 (Daphnia magna): 289.1 mg/L 48 hr LC50 (Fathead minnow): 352.3 mg/L

SECTION 13: DISPOSAL

RCRA STATUS: Discarded product as sold would be considered a RCRA Hazardous Waste based on the characteristic of corrosivity because the product corrodes steel at a rate >0.250 inch/year at 130 °F. The EPA Hazardous Waste Number is D002.

DISPOSAL: Dispose of in accordance with local, state, and federal regulations.

SECTION 14: TRANSPORTATION

DOT CLASSIFICATION:
 Proper Shipping Name: Bisulfites, aqueous solution, n.o.s. (contains sodium bisulfite)
 Primary Hazard Class/Division: 8
 UN Number: UN 2693
 Packing Group: III
 Label: Corrosive

SECTION 15: REGULATORY INFORMATION

CERCLA: EPA Hazardous Substances (40 CFR 302):

<u>Chemical Name</u>	<u>CERCLA Reportable Quantity (RQ)</u>
Sodium bisulfite	5,000 lb
Product	11,905 lb

(Notify the EPA of spills exceeding this amount.)

SARA TITLE III (Sections 302, 311, 312, and 313):

Section 302 Extremely Hazardous Substances (40 CFR 355):

<u>Chemical Name</u>	<u>CAS#</u>	<u>RQ</u>	<u>TPQ</u>
None			

Section 311 and 312 Health and Physical Hazards:

<u>Immediate</u>	<u>Delayed</u>	<u>Fire</u>	<u>Pressure</u>	<u>Reactivity</u>
yes	no	no	no	no

Section 313 Toxic Chemicals (40 CFR 372):

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Percent by Weight</u>
None		

SECTION 16: OTHER INFORMATION

HMIS RATINGS: Health = 2 Flammability = 0 Reactivity = 1 Corrosive(COR)

Hazard Rating Scale: 0=Minimal; 1=Slight; 2=Moderate; 3=Serious; 4=Severe

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