



Suite 450  
One North Shore Center  
12 Federal Street  
Pittsburgh, PA 15212

## KR-68AL

### MATERIAL SAFETY DATA SHEET

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

FOR ADDITIONAL INFORMATION  
CALL: 412-321-9800

#### SECTION 1: PRODUCT IDENTIFICATION

PRODUCT NAME: **KR-68AL**  
CHEMICAL DESCRIPTION: Carbohydrazide solution with a small amount of ammonia for pH elevation  
PRODUCT CLASS: Boiler Water  
MSD REVISION DATE: 3-22-10

#### SECTION 2: INFORMATION ON INGREDIENTS

Chemical Name	CAS #	Weight %	OSHA PEL	ACGIH TLV
Carbohydrazide	497-18-7	7.1	None established	None established

#### SECTION 3: HAZARDS IDENTIFICATION

\*\*\*\*\*EMERGENCY OVERVIEW\*\*\*\*\*

Clear, colorless liquid  
WARNING!  
May cause eye and skin irritation.  
May cause skin sensitization

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PRIMARY ROUTES OF ENTRY: Eye and skin contact

TARGET ORGANS: Eye and skin

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: A review of available data does not identify any worsening of existing conditions.

**POTENTIAL HEALTH EFFECTS:**

**EYE CONTACT:** This product may cause irritation upon prolonged contact with the eye.

**SKIN CONTACT:** Contact with skin may cause a mild, short-lasting irritation. Repeated or prolonged contact may cause skin sensitization.

**INGESTION:** Not a likely route of exposure. No adverse effects are expected.

**INHALATION:** Not a likely route of exposure. No adverse effects are expected.

**SUBCHRONIC, CHRONIC:** Repeated or prolonged contact with skin may cause skin sensitization.

**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:** In case of contact, check for contact lenses and remove lenses if present. Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids to ensure complete rinsing. Seek medical aid immediately.

**SKIN CONTACT:** In case of contact, immediately flush the exposed area with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Seek medical aid immediately. Wash clothing and thoroughly clean shoes before reuse.

**INGESTION:** If victim is conscious and alert, immediately rinse out mouth with water and give water to drink. Induce vomiting. If victim is drowsy or unconscious, do NOT give anything by mouth and do NOT induce vomiting. Place victim on their left side with their head down. Loosen tight clothing such as collars, ties, belts, or waistbands. If possible, do not leave the individual unattended. If a large quantity of this material is swallowed, call a physician 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:** 200 °F (93.3 °C), PMCC, ASTM D-93

*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: This product would not be expected to burn unless all of the water is boiled away. The remaining organics may be ignitable. Use extinguishing media appropriate for the surrounding fire.

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

FIRE & EXPLOSION HAZARDS: Product emits toxic gases under fire conditions.

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition or combustion may produce oxides of carbon and nitrogen.

NFPA RATINGS: Health = 1 Flammability = 0 Reactivity = 0 Special Hazard = None

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

## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

PERSONAL PRECAUTIONS: Restrict access to the spill area as appropriate until clean-up operations are complete. Stop or reduce any leaks if it is safe to do so. Do not touch spilled material. Ventilate the spill area if possible. Use personal protective equipment recommended in Section 8.

### METHODS FOR CLEAN-UP:

Small Spills: Soak up spill with an absorbent material. Place residues in a suitable, covered, properly labeled container. Wash the affected area.

Large Spills: Contain the liquid using absorbent material, by digging trenches, or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Contact and approved waste hauler for disposal of contaminated recovered material.

U.S. Regulations (CERCLA) require the reporting of spills and releases to soil, water, and air in excess of reportable quantities. (See Section 15) The toll free number for the U.S. Coast Guard National Response Center is 800-424-8802.

**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 all containers are properly labeled.

Since empty containers retain product residues (vapors, liquid), observe all warnings and precautions listed for the product.

Have emergency equipment (for fires, spills, leaks, etc.) readily available.

**STORAGE:**

Store product in a cool, dry, well-ventilated area away from incompatibles.

Store product above 44 °F (6.7 °C) and below 120 °F (49 °C).

**UNSATISFACTORY MATERIALS OF CONSTRUCTION:** Natural rubber, Neoprene, Hypalon, Buna-N, HDPE (high density polyethylene)

**SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**EYE/FACE PROTECTION:** Chemical splash goggles

**SKIN PROTECTION:** Chemical resistant gloves (Neoprene, Nitrile, Butyl, or PVC) and protective clothing

**RESPIRATORY PROTECTION:** If airborne concentrations exceed published exposure limits, use a NIOSH approved respirator in accordance with OSHA respiratory protection requirements (29 CFR 1910.134)

**ENGINEERING CONTROLS:** A system of local and/or general exhaust is recommended to keep employee exposures below irritating levels or airborne exposure limits, whichever is lower. Local exhaust ventilation is preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the latest edition of the ACGIH document *Industrial Ventilation, A Manual of Recommended Practices* for details.

**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: 9.0-11.0

SPECIFIC GRAVITY: 1.02 g/mL

SOLUBILITY IN WATER: Complete

BOILING POINT: 212 °F (100 °C) @ 760 mm Hg

FREEZING POINT: 30 °F (-1.1 °C)

VAPOR DENSITY (air=1): Not available

VAPOR PRESSURE: Not available

APPEARANCE AND ODOR: Clear, colorless liquid with no odor

**SECTION 10: STABILITY AND REACTIVITY**

CHEMICAL STABILITY: Stable

HAZARDOUS POLYMERIZATION: Will not occur

CONDITIONS TO AVOID: Product is stable. Store product above 44 °F (6.7 °C) and below 120 °F (49 °C). At temperatures below 36 °F (2.2 °C), this product loses its stability and precipitates form.

INCOMPATIBILITIES: INCOMPATIBILITIES: Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors. Contact with strong acids (e.g. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) may generate heat, spattering or boiling and toxic vapors. Contact with strong alkalis (e.g. ammonia and its solutions, carbonates, sodium hydroxide (caustic soda), potassium hydroxide (caustic potash), calcium hydroxide (lime), cyanide, sulfide, hypochlorites, chlorites) may generate heat, spattering or boiling and toxic vapors.

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition or combustion may produce oxides of carbon and nitrogen.

**SECTION 11: TOXOLOGICAL INFORMATION**

ON PRODUCT AND SIMILAR PRODUCT:

Test Material	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 (rat)
Carbohydrazide, 7.1%	>5,000 mg/Kg	>2,000 mg/Kg (rat)	Not available

Carbohydrazide, 12%: Skin Irritation Index DRAIZE Rating = 0.28/8.0, Minimal irritation

Carbohydrazide, 12%: Eye Irritation Index DRAIZE Rating = 0.33/110.0, Practically non-irritating

**SECTION 12: ECOLOGICAL INFORMATION**

ON PRODUCT AND SIMILAR PRODUCT:

Test Material	Aquatic Toxicity Data (Static, Acute)
Carbohydrazide, 7.1%	96 hr LC50 (Fathead minnow): 400 mg/L 96 hr LC50 (Rainbow trout): 360 mg/L
Carbohydrazide, 12.1%	48 hr LC50 (Daphnia magna): 96 mg/L 96 hr LC50 (Fathead minnow): 400 mg/L 96 hr LC50 (Bluegill sunfish): 190 mg/L 96 hr LC50 (Rainbow trout): 360 mg/L

**SECTION 13: DISPOSAL**

RCRA STATUS: If this product becomes a waste, it is not a hazardous waste as defined by RCRA (Resource Conservation and Recovery Act), since it does not have the characteristics of Subpart C, 40 CFR 261 or is it listed under Subpart D, 40 CFR 261.

DISPOSAL: As a non-hazardous waste, this product is not subject to federal regulation. Consult state or local regulation for any additional handling, treatment, or disposal requirements. For disposal, contact a properly licensed waste treatment, storage, disposal, or recycling facility.

**SECTION 14: TRANSPORTATION**

DOT CLASSIFICATION:

Proper Shipping Name: Not applicable

Primary Hazard Class/Division: Not restricted

UN Number: Not applicable

Packing Group: Not applicable

Label: None

**SECTION 15: REGULATORY INFORMATION**

OSHA Hazard Communication Status: Hazardous

TSCA: The ingredients of this product are listed on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory.

CERCLA: EPA Hazardous Substances (40 CFR 302):

<u>Chemical Name</u>	<u>CERCLA Reportable Quantity (RQ)</u>
None	

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>
no	yes	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 = 1      Flammability = 0      Reactivity = 0

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

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The preceding information is accurate to the best of our knowledge. However, since data, safety standards, and government regulations are subject to change, and the conditions of handling and use or misuse are beyond our control, Kroff Chemical Company, Inc. makes no warranty, either express or implied, with respect to the completeness or continuing accuracy of the information contained herein, and disclaims all liability for reliance thereon. User should satisfy himself that he has all current data relevant to his particular use.