



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

Safety Data Sheet

KR-51KL

1. IDENTIFICATION

Product name KR-51KL
Description Boiler water treatment
Product class Water treatment
Supplier address Suite 450
One North Shore Center
12 Federal Street
Pittsburgh, PA 16212
Telephone numbers
Company Phone Number (412) 321-9800
Emergency Telephone CHEMTREC 1-800-424-9300

2. HAZARDS IDENTIFICATION

Hazard classification Skin corrosion/irritation Category 1
Serious eye damage/eye irritation Category 1
Signal word Danger
Hazard statements Causes severe skin burns and eye damage. Causes serious eye damage.
Pictograms of related hazards



Precautionary statements

Prevention

Do not breathe mist or vapor. Wash thoroughly after handling. Wear eye protection/face protection. Wear protective gloves/protective clothing/eye protection/face protection.

Response

Specific measures:

IF ON SKIN: Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

present and easy to do. Continue rinsing.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center/doctor.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Storage

Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

| INGREDIENT(S) | CAS Number | Weight % |
|--|------------|----------|
| Sodium hydroxide | 1310-73-2 | <=1 |
| Other components below reportable levels | | 80 - 100 |

4. FIRST-AID MEASURES

| | |
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| Eye contact | Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately. |
| Skin contact | Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse. |
| Ingestion | Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. |
| Inhalation | If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist. |
| Most important symptoms/effects, acute and delayed | Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. |
| Indication of immediate medical attention and special treatment needed | Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed. |

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Protective equipment and precautions for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Firefighting equipment/instructions In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Use standard firefighting procedures and consider the hazards of other involved materials.

Specific hazards Use standard firefighting procedures and consider the hazards of other involved materials. No unusual fire or explosion hazards noted. The product itself does not burn.

Hazardous combustion products During fire, gases hazardous to health may be formed

General information No unusual fire or explosion hazards noted.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up: This product is miscible in water.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent product from entering drains. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination

Environmental precautions Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid discharge into drains, water courses or onto the ground.

7. HANDLING AND STORAGE

Advice on safe handling Provide adequate ventilation. Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Use care in handling/storage.

Storage conditions Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Eye/face protection Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier. Wear appropriate chemical resistant clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

General hygiene considerations Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

| Chemical Name | OSHA PEL | ACGIH TLV |
|----------------------------------|---------------------|-------------------------------|
| Sodium hydroxide (CAS 1310-73-2) | 2 mg/m ³ | 2 mg/m ³ , ceiling |

Biological limit values No biological exposure limits noted for the ingredient(s).

9. PHYSICAL AND CHEMICAL PROPERTIES

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|------------|------------------------|
| pH | >12.5 |
| Appearance | Clear colorless liquid |

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| Odor | Characteristic |
| Odor Threshold | No information available |
| Melting/freezing point | 40 °F (< 4.4 °C) estimated |
| Initial boiling point/boiling range | 212 °F (> 100 °C) estimated |
| Flash point | None |
| Evaporation rate | No information available |
| Flammability (solid, gas) | Combustible II estimated |
| Upper/lower flammability or explosive limits | No information available |
| Vapor pressure | < 1.0 mm Hg estimated |
| Vapor density | No information available |
| VOC content | No information available |
| Specific gravity | 1.118 |
| Solubility | Complete |
| Partition coefficient n-octanol/water | No information available |
| Auto-ignition temperature | No information available |
| Decomposition temperature | No information available |
| Viscosity | No information available |

10. STABILITY AND REACTIVITY

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| Reactivity | Reacts violently with strong acids. This product may react with oxidizing agents. |
| Chemical stability | Stable under normal conditions of storage and handling. |
| Hazardous polymerization | Polymerization will not occur. |
| Conditions to avoid | Do not mix with other chemicals. Contact with incompatible materials. |
| Incompatibilities | Strong acids. Acids. Strong oxidizing agents. Oxidizing agents. |
| Hazardous decomposition products | None known |

11. TOXICOLOGICAL INFORMATION

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| TOXICITY: | No Data Available For Product |
| Information on likely routes of exposure | |
| Inhalation | May cause irritation to the respiratory system. Prolonged |

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|---|---|
| <p>Skin contact</p> <p>Eye contact</p> <p>Ingestion</p> | <p>inhalation may be harmful.</p> <p>Causes severe skin burns.</p> <p>Causes serious eye damage.</p> <p>Causes digestive tract burns.</p> |
| <p>Symptoms related to the physical, chemical and toxicological characteristics</p> | <p>Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.</p> |
| <p>Information on toxicological effects</p> <p>Acute toxicity</p> <p>Skin corrosion/irritation</p> <p>Serious eye damage/eye irritation</p> | <p>Not available.</p> <p>Causes severe skin burns and eye damage.</p> <p>Causes serious eye damage</p> |
| <p>Respiratory or skin sensitization</p> <p>Respiratory sensitization</p> <p>Skin sensitization</p> <p>Germ cell mutagenicity</p> | <p>Not a respiratory sensitizer.</p> <p>This product is not expected to cause skin sensitization.</p> <p>No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.</p> |
| <p>Carcinogenicity</p> | <p>This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.</p> |
| <p>OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)</p> | <p>Not listed.</p> |
| <p>Reproductive toxicity</p> | <p>This product is not expected to cause reproductive or developmental effects.</p> |
| <p>Specific target organ toxicity - single exposure</p> <p>Specific target organ toxicity - repeated exposure</p> <p>Aspiration hazard</p> <p>Chronic effects</p> | <p>Not classified.</p> <p>Not classified.</p> <p>Not an aspiration hazard</p> <p>Prolonged inhalation may be harmful.</p> |

12. ECOLOGICAL INFORMATION

Aquatic toxicity

Product

| Parameter | Result |
|--|-------------|
| 96 hr LC ₅₀ , Rainbow trout | 5,011 mg/L |
| 48 hr EC ₅₀ , Daphnia magna | 18,000 mg/L |

Ecotoxicity

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and degradability

No data is available on the degradability of this product

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. DISPOSAL CONSIDERATIONS

Disposal

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations

Dispose in accordance with all applicable regulations

Hazardous waste code

The waste code should be assigned in discussion between the user, the producer and the waste disposal company

Waste from residues / unused products

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging

Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

US Department of Transportation (DOT) –

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|---|--|
| UN Number | UN3266 |
| Proper shipping name | Corrosive liquid, basic, inorganic, n.o.s. (Sodium hydroxide) |
| Transport hazard class(es) | |
| Primary hazard class/division | 8 |
| Subsidiary risk | - |
| Label(s) | 8 |
| Packing group | II |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling |
| Special provisions | B2 IB2, T11, TP2, TP27 |
| Packaging exceptions | 154 |
| Packaging non bulk | 202 |
| Packaging bulk | 242 |
| Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code | Not established. |
| Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code | Not regulated as dangerous goods |
| DOT Label | |



15. REGULATORY INFORMATION

| | | |
|---|--|--|
| U.S. REGULATIONS | This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. | |
| CERCLA Hazardous Substance List (40 CFR 302.4) | Sodium hydroxide (CAS 1310-73-2) | |
| | Listed | |
| SARA 304 Emergency release notification | Not regulated | |
| OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) | Not listed. | |

Superfund Amendments and Reauthorization Act of 1986 (SARA)

| | |
|---|------------------------|
| Hazard categories | Immediate Hazard - Yes |
| | Delayed Hazard - No |
| | Fire Hazard - No |
| | Pressure Hazard - No |
| | Reactivity Hazard - No |
| SARA 302 Extremely hazardous substance | Not listed |
| SARA 311/312 Hazardous chemical | No |
| SARA 313 (TRI reporting) | Not regulated |
| Chemical name | CAS number |
| | % by wt. |

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Sodium hydroxide (CAS 1310-73-2)

US. Massachusetts RTK - Substance List

Sodium hydroxide (CAS 1310-73-2)

US. New Jersey Worker and Community Right-to-Know Act

Sodium hydroxide (CAS 1310-73-2)

US. Pennsylvania Worker and Community Right-to-Know Law

Sodium hydroxide (CAS 1310-73-2)

US. Rhode Island RTK

Sodium hydroxide (CAS 1310-73-2)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|--|-------------------------------|
| Australia | Australian Inventory of Chemical Substances (AICS) | Yes |
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |

| | | |
|-----------------------------|--|-----|
| China | Inventory of Existing Chemical Substances in China (IECSC) | Yes |
| Europe | European Inventory of Existing Commercial Chemical | No |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | No |
| Korea | Existing Chemicals List (ECL) | Yes |
| New Zealand | New Zealand Inventory | Yes |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances | Yes |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s). A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. OTHER INFORMATION

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|----------------------------|---|
| HMIS Ratings | Health—2; Flammability—0; Reactivity—0 |
| NFPA Codes | Health—2; Flammability—0; Reactivity—0; Special Hazard—None |
| Hazard Rating Scale | Minimal—0; Slight—1; Moderate—2; Serious—3; Severe—4 |
| SDS Issue Date | May 29, 2015 |
| Revision Date | February 11, 2016 |

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.