



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

Safety Data Sheet

KR-5124CMU

1. IDENTIFICATION

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|-----------------------------|--|
| Product name | KR-5124CMU |
| Description | Proprietary aqueous solution |
| Product class | Cooling Water |
| Supplier address | Suite 450 One North Shore Center 12 Federal Street Pittsburgh, PA 16212 |
| Telephone numbers | |
| <u>Company Phone Number</u> | (412) 321-9800 |
| <u>Emergency Telephone</u> | CHEMTREC 800-424-9200 |

2. HAZARDS IDENTIFICATION

| | |
|------------------------------|--|
| Hazard classification | Skin Corrosion, Category 1 Serious Eye Damage, 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 fumes, mist, vapors, or spray.
Wash skin thoroughly after handling.
Wear protective gloves, protective clothing, eye protection, and face protection.

Response

Wash contaminated clothing before reuse.
Specific measures:
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting. Immediately contact a POISON CENTER or health care provider.
IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water or emergency shower.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Immediately contact a POISON CENTER or health care provider.

Storage

Store locked up.
Store in a closed container.

Disposal

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS # | Weight % |
|---|-------------|----------|
| 1-Hydroxyethylidene-1,1-diphosphonic acid (HEDP) | 2809-21-4 | 1-10 |
| 2-Phosphono-1,2,4-butanetricarboxylic acid (PBTC) | 37971-36-1 | 1-10 |
| Sodium tolyltriazole | 64665-57-2 | 1-10 |
| Sodium hydroxide | 1310-73-2 | <2 |
| Non-hazardous substances | Proprietary | >60 |

4. FIRST-AID MEASURES

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally to ensure complete rinsing. Remove contact lenses if present and easy to do, then resume rinsing. Do not wait for symptoms to develop. Get medical attention immediately.

Skin contact

Immediately remove all contaminated clothing. Rinse with copious amounts of water; use an emergency shower if available. Wash contaminated clothing before reuse.

Ingestion

If swallowed, DO NOT induce vomiting. Rinse mouth and get emergency medical attention. Do not give anything by mouth unless instructed to do so by a poison center or health care provider.

Inhalation

If inhaled, move victim to fresh air. Seek emergency medical attention if breathing is difficult; perform artificial respiration if breathing stops.

Note to health care provider

Esophageal corrosion may contraindicate the use of gastric lavage and/or activated charcoal.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Use extinguishing media appropriate for the surrounding fire.

Unsuitable extinguishing media

No information available

Protective equipment and precautions for firefighters

Exercise caution when fighting any chemical fire. A self-contained breathing apparatus and protective clothing are essential. Use water to keep fire-exposed containers cool.

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| Specific hazards | Reaction with metals may evolve highly flammable hydrogen gas. Combustion may produce toxic gases. |
| Hazardous combustion products | Carbon oxides, nitrogen oxides, sulfur oxides, phosphorous oxides |

6. ACCIDENTAL RELEASE MEASURES

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|-----------------------------|---|
| Personal precautions | Evacuate the area of all non-essential personnel. Do not touch spilled material without proper protective equipment. Ventilate the area and mitigate further release if it is safe to do so. Avoid contact with eyes. |
| Methods for clean-up | |
| <u>Small spills</u> | Contain spill and soak up with an inert absorbent material and place residues in a properly labeled container for disposal. Avoid discharge into sewer or surface water. |
| <u>Large spills</u> | Contain spill using trenches, diking, or absorption with an inert material (i.e. sand or earth). Reclaim spilled material into recovery or salvage drums or tank truck for proper disposal. |

7. HANDLING AND STORAGE

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|---|--|
| Advice on safe handling | Avoid contact with eyes, skin, and clothing. Avoid breathing vapor or mist. Wash hands thoroughly after handling. |
| Storage conditions | Store in a cool, dry, well-ventilated area away from incompatible materials. Keep containers closed when not in use. |
| Suitable materials of construction | Corrosion-resistant container; original container only is recommended. |
| Unsuitable materials of construction | Metals |

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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|---------------------------------------|---|
| Eye/face protection | Chemical splash goggles, face shield |
| Skin protection | Chemical-resistant gloves and body-covering clothing |
| Respiratory protection | Observe published airborne exposure limits. NIOSH approved respirator should be used in accordance with OSHA respiratory protection requirements (29 CFR 1910.134). |
| Engineering controls | Adequate ventilation, eye-wash station, and emergency shower |
| General hygiene considerations | Do not eat, drink, or smoke while handling this product. |

| Chemical Name | OSHA PEL | ACGIH TLV |
|---|------------------------------|------------------------------|
| 1-Hydroxyethylidene-1,1-diphosphonic acid (HEDP) | None established | None established |
| 2-Phosphono-1,2,4-butanetricarboxylic acid (PBTC) | None established | None established |
| Sodium tolyltriazole | None established | None established |
| Sodium hydroxide | Ceiling: 2 mg/m ³ | Ceiling: 2 mg/m ³ |
| Non-hazardous substances | None established | None established |

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|--|--------------------------|
| pH | 11.5-12.5 |
| Appearance | Clear amber liquid |
| Odor | No odor |
| Odor Threshold | No information available |
| Melting/freezing point | <25°F (-3.9°C) |
| Initial boiling point/boiling range | No information available |
| Flash point | No information available |
| Evaporation rate | No information available |
| Flammability (solid, gas) | No information available |
| Upper/lower flammability or explosive limits | No information available |
| Vapor pressure | No information available |
| Vapor density | No information available |
| VOC content | No information available |
| Specific gravity | 1.120-1.200 |
| Solubility | No information available |
| 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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|---|---|
| Chemical stability | Stable under normal conditions of storage and handling. |
| Hazardous polymerization | Polymerization will not occur. |
| Conditions to avoid | Extreme temperatures, incompatibilities |
| Incompatibilities | Strong acids, oxidizers |
| Hazardous decomposition products | No known non-thermal decomposition hazards. |

11. TOXICOLOGICAL INFORMATION

Likely routes of exposure Skin, eyes, ingestion

Acute toxicity

1-Hydroxyethylidene-1,1-diphosphonic acid (HEDP)

| Parameter | Result |
|------------------------------------|-------------------|
| LD ₅₀ , Oral (rat) | 1,536-2,003 mg/kg |
| LD ₅₀ , Oral (mouse) | 1,100 mg/kg |
| LD ₅₀ , Dermal (rabbit) | >6,000 mg/kg |
| Draize, Eye (rabbit) | Severe corrosion |

2-Phosphono-1,2,4-butanetricarboxylic acid (PBTC)

| Parameter | Result |
|-------------------------------------|------------------------------|
| LD ₅₀ , Oral (rat) | >4,000 mg/kg |
| LC ₅₀ , Inhalation (rat) | 1,979 mg/m ³ /4hr |
| Draize, Skin (rabbit) | Not irritating |
| Draize, Eye (rabbit) | Moderately irritating |

Sodium hydroxide

| Parameter | Result |
|------------------------------------|---------------|
| LD ₅₀ , Oral (rat) | 140-340 mg/kg |
| LD ₅₀ , Dermal (rabbit) | 1,350 mg/kg |

Acute symptoms and effects

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|---------------------------------|---|
| Eye | Severe eye irritation with serious damage including, but not limited to, tissue destruction, corneal opacification, and temporary or permanent blindness. |
| Skin | Skin irritation with or without pain, burning, itching, redness, and swelling. Symptoms may be exacerbated by open wounds, excoriations, rashes, or other skin breaches. Onset of symptoms may be delayed relative to exposure. |
| Ingestion | Gastrointestinal distress with or without nausea, vomiting, and diarrhea. May cause irritation or corrosion of the oral and esophageal mucosa. |
| Inhalation | Upper respiratory irritation with or without cough, watering of the eyes, and postnasal drip. Aspiration of liquid or vomit may cause severe respiratory distress, airway corrosion, and acute lung damage. |
| Reproductive effects | No information available |
| Teratogenicity | No information available |
| Mutagenicity | No information available |
| Embryotoxicity | No information available |
| Sensitization to product | No information available |

| | |
|-----------------------------|---|
| Synergistic products | No information available |
| Carcinogenicity | No components have been identified as carcinogenic by OSHA, NTP, or IARC. |
| Chronic | Repeat, long-term, or high-dose exposure to HEDP has been implicated in dysregulation of blood calcium levels and shown adverse effects on bone mineralization. |

12. ECOLOGICAL INFORMATION

Aquatic toxicity

Product

| Parameter | Result |
|---|------------|
| 96 hr LC ₅₀ , Fathead Minnow | 1,390 mg/L |
| 48 hr EC ₅₀ , Daphnia magna | 1,370 mg/L |

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|----------------------------------|--------------------------|
| Persistence | No information available |
| Bioaccumulative potential | No information available |
| Mobility | No information available |

13. DISPOSAL CONSIDERATIONS

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|--------------------|---|
| Disposal | Dispose of in accordance with federal, state, and local regulations. |
| RCRA status | As sold, discarded product would be considered a RCRA hazardous waste based on the corrosive characteristics. The EPA hazardous waste number is D002. |

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. (contains sodium hydroxide) |
| Primary hazard class/division | 8 |
| Secondary hazard | None |
| Packing group | III |
| Label | Corrosive |

15. REGULATORY INFORMATION

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|---|--|
| OSHA Hazard Communication Status | Skin Corrosion, Category 1 Serious Eye Damage, Category 1 |
| EPA Registration Number | Not applicable |

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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)

| Chemical Name | Reportable Quantity (RQ) |
|---|--|
| 1-Hydroxyethylidene-1,1-diphosphonic acid (HEDP) | None |
| 2-Phosphono-1,2,4-butanetricarboxylic acid (PBTC) | None |
| Sodium tolyltriazole | None |
| Sodium hydroxide | 1,000 lb |
| Non-hazardous substances | None |
| Product | 50,000 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)

| Chemical Name | CAS# | RQ | TPQ |
|---------------|------|----|-----|
| None | | | |

Section 311 and 312 Health and Physical Hazards

| Immediate | Delayed | Fire | Pressure | Reactivity |
|-----------|---------|------|----------|------------|
| Yes | No | No | No | No |

Section 313 Toxic Chemicals (40 CFR 372)

| Chemical Name | CAS Number | Percent by Weight |
|---------------|------------|-------------------|
| None | | |

16. OTHER INFORMATION

HMIS Ratings Health—2; Flammability—0; Reactivity—0

NFPA Ratings Health—2; Flammability—0; Reactivity—0; Special Hazard—None

HMIS and NFPA Rating Scale Minimal—0; Slight—1; Moderate—2; Serious—3; Severe—4

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