



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

Safety Data Sheet

KR-41L

1. IDENTIFICATION

Product name KR-41L
Description Proprietary aqueous solution
Product class Closed System
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 800-424-9200

2. HAZARDS IDENTIFICATION

Hazard classification Acute Toxicity: Oral, Category 2
Skin Corrosion, Category 1
Serious Eye Damage, Category 1
Carcinogenicity, Category 1B (Ingestion)
Reproductive Toxicity, Category 1B
Aquatic Environment Toxicity: Acute, Category 1
Signal word Danger
Hazard statements Fatal if swallowed.
Causes severe skin burns and eye damage.
Causes serious eye damage.
May cause cancer if ingested.
May damage fertility or the unborn child.
Very toxic to aquatic life.

Pictograms of related hazards



Precautionary statements

Prevention

Wash skin thoroughly after handling.
Do not eat, drink, or smoke when using this product.
Do not breathe fumes, mist, vapors, or spray.
Wear protective gloves, protective clothing, eye protection, and face protection.
Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.
 Use personal protective equipment as required.
 Avoid release to the environment.

Response

DO NOT induce vomiting.
 Wash contaminated clothing before reuse.
 Store in a dry place. Store in a closed container.
 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.
 IF exposed or concerned: Get medical attention.

Storage

Store locked up.
 Store in a closed container.
 Store in a well-ventilated place. Keep cool.

Disposal

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS #	Weight %
Sodium nitrite	7632-00-0	30-40
Sodium tetraborate pentahydrate	12179-04-3	<5
Sodium hydroxide	1310-73-2	<2
Non-hazardous substances	Proprietary	>55

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 Remove contaminated clothing and wash the affected area with soap and water. 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	Ingestion of nitrates or nitrites may lead to life-threatening methemoglobinemia.

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.
Specific hazards	Combustion may produce toxic gases.
Hazardous combustion products	Carbon oxides, nitrogen oxides, sulfur oxides, phosphorous oxides

6. ACCIDENTAL RELEASE MEASURES

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

Advice on safe handling	Avoid contact with eyes, skin, and clothing. Avoid breathing vapor or mist. Wash hands thoroughly after handling. Contaminated clothing should not be removed from the workplace.
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

Eyeface protection	Chemical splash goggles
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
Sodium nitrite	None established	None established
Sodium tetraborate pentahydrate	TWA: 10 mg/m ³	TWA: 10 mg/m ³
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	12.0-13.5
Appearance	Clear pale yellow liquid
Odor	No odor
Odor Threshold	No information available
Melting/freezing point	No information available
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	1.236-1.316
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

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***Sodium nitrite***

Parameter	Result
LD ₅₀ , Oral (rat)	180 mg/kg
LC ₅₀ , Inhalation (rat)	5.5 mg/m ³ /4hr
LD _{Lo} , Oral (human)	14 mg/kg

Sodium tetraborate pentahydrate

Parameter	Result
LD ₅₀ , Oral (rat)	3,200-3,400 mg/kg
LD ₅₀ , Dermal (rabbit)	>2,000 mg/kg

Sodium hydroxide

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

Acute symptoms and effects

Eye	Eye irritation with or without pain, burning, itching, redness, and discharge.
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.
Ingestion	Gastrointestinal distress with or without nausea, vomiting, and diarrhea.
Inhalation	Upper respiratory irritation with or without cough, watering of the eyes, and postnasal drip.
Reproductive effects	Exposure to sodium tetraborate has been implicated in damaging fertility or causing harm to unborn offspring in animal studies.
Teratogenicity	No information available

Mutagenicity	No information available
Embryotoxicity	No information available
Sensitization to product	No information available
Synergistic products	No information available
Carcinogenicity	Nitrites and nitrates have been identified as probable human carcinogens by the IARC (group 2A).
Chronic	No information available

12. ECOLOGICAL INFORMATION

Aquatic toxicity

Product

Parameter	Result
48 hr LC ₅₀ , Daphnia Magna	4.32 mg/L
96 hr LC ₅₀ , Fathead Minnow	92.59 mg/L

Persistence	No information available
Bioaccumulative potential	No information available
Mobility	No information available

13. DISPOSAL CONSIDERATIONS

Disposal	Dispose of in accordance with federal, state, and local regulations. Do not discharge into sewer or surface water.
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)

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

OSHA Hazard Communication Status	Acute Toxicity: Oral, Category 2 Skin Corrosion, Category 1 Serious Eye Damage, Category 1 Carcinogenicity, Category 1B (Ingestion) Reproductive Toxicity, Category 1B
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Aquatic Environment Toxicity: Acute, Category 1

EPA Registration Number Not applicable

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)
Sodium nitrite	100 lb
Sodium tetraborate pentahydrate	None
Sodium hydroxide	1,000 lb
Non-hazardous substances	None
Product	250 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
Sodium nitrite	7632-00-0	30-40

16. OTHER INFORMATION

HMIS Ratings Health—3; Flammability—0; Reactivity—0

NFPA Ratings Health—3; 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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