SAFETY DATA SHEET
UC KFE 100

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1. PRODUCT AND COMPANY IDENTIFICATION

Product Code: 0090

Product Name: ULTRA CONCENTRATE KFE 100

Company Name: KIRBY CHEMICAL & RESTAURANT SUPPLY
809 S. EASTMAN RD.
LONGVIEW, TX 75602

Phone Number: (903)757-2723

(800)255-3924

Emergency Contact: CHEM-TEL, INC.

Intended Use: LIQUID DISHMACHINE DETERGENT

2. HAZARDS IDENTIFICATION

Skin Corrosion/Irritation, Category 1A

GHS Signal Word: **Danger**

GHS Hazard Phrases: H314 - Causes severe skin burns and eye damage.

GHS Precaution Phrases: P264 - Wash hands thoroughly after handling.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

GHS Response Phrases: P303+361+353 - IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
P363 - Wash contaminated clothing before reuse.
P305+351+338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P301+330+331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P310 - Immediately call a POISON CENTER/doctor/....
P321 - Specific treatment see ... on this label.

GHS Storage and Disposal Phrases: P405 - Store locked up.
P501 - Dispose of contents/container to ....

Potential Health Effects (Acute and Chronic): Prolonged or repeated skin contact may cause dermatitis.
Chronic: Effects may be delayed.

Skin Contact: Causes skin burns. May cause deep, penetrating ulcers of the skin. May cause skin rash (in milder cases), and cold and clammy skin with cyanosis or pale color. Causes skin irritation. Causes redness and pain.

Eye Contact: Causes eye burns. May cause chemical conjunctivitis and corneal damage. Causes eye irritation. Causes redness and pain.

Ingestion: May cause severe and permanent damage to the digestive tract. Causes gastrointestinal tract burns. Causes severe pain, nausea, vomiting, diarrhea, and shock. May cause corrosion and permanent tissue destruction of the esophagus and digestive tract. May cause systemic effects. Ingestion of large amounts can cause hypocalcemic tetany due to formation of calcium complexes. Exposure may cause kidney injury, muscle cramps, bone-marrow depression, and a generalized allergic reaction. Ingestion of large quantities may cause appreciable systemic toxicity involving blood chemistry changes due to chelation properties.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Hazardous Components (Chemical Name)	Concentration
1310-73-2	Sodium hydroxide	35.0 -70.0 %

4. FIRST AID MEASURES

Emergency and First Aid Procedures:

In Case of Skin Contact: Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.

In Case of Eye Contact: In case of contact, immediately flush eyes with plenty of water for a t least 15 minutes. Get medical aid immediately. Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids.

In Case of Ingestion: Get medical aid immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.

Note to Physician: Treat symptomatically and supportively.

5. FIRE FIGHTING MEASURES

Flash Pt: No data.

Explosive Limits: LEL: No data. UEL: No data.

Autoignition Pt: No data.

Suitable Extinguishing Media: Substance is noncombustible; use agent most appropriate to extinguish surrounding fire. Do NOT get water inside containers. Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Fire Fighting Instructions: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Use water spray to keep fire-exposed containers cool. Use water with caution and in flooding amounts. Contact with moisture or water may generate sufficient heat to ignite nearby combustible materials. Contact with metals may evolve flammable hydrogen gas. Dusts at sufficient concentrations can form explosive mixtures with air. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Flammable Properties and Hazards: No data available.

6. ACCIDENTAL RELEASE MEASURES

Steps To Be Taken In Case Material Is Released Or Spilled: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation. Do not get water on spilled substances or inside containers.

7. HANDLING AND STORAGE

Precautions To Be Taken in Handling: Wash thoroughly after handling. Do not allow water to get into the container because of violent reaction. Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Avoid ingestion and inhalation. Discard contaminated shoes. Use only with adequate ventilation. Remove contaminated clothing and wash before reuse.

Precautions To Be Taken in Storing: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from metals. Corrosives area. Keep away from acids. Store protected from moisture. Containers must be tightly closed to prevent the conversion of NaOH to sodium carbonate by the CO2 in air. Do not store in direct

sunlight.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
1310-73-2	Sodium hydroxide	PEL: 2 mg/m3	CEIL: 2 mg/m3	No data.

Respiratory Equipment (Specify Type): No data available.

Eye Protection: Wear chemical splash goggles. Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Protective Gloves: Wear appropriate protective gloves to prevent skin exposure.

Other Protective Clothing: Wear appropriate protective clothing to prevent skin exposure.

Engineering Controls (Ventilation etc.): Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical States: [ ] Gas [X] Liquid [ ] Solid

Appearance and Odor: Appearance: Clear. Liquid.
Odor: Odorless.

Melting Point: No data.

Boiling Point: No data.

Autoignition Pt: No data.

Flash Pt: No data.

Explosive Limits: LEL: No data. UEL: No data.

Specific Gravity (Water = 1): 1.310

Vapor Pressure (vs. Air or mm Hg): No data.

Vapor Density (vs. Air = 1): No data.

Evaporation Rate: No data.

Solubility in Water: YES

pH: 13

Percent Volatile: No data.

10. STABILITY AND REACTIVITY

Stability: Unstable [ ] Stable [X]

Conditions To Avoid - Instability: Moisture, contact with water. Exposure to moist air or water, dust generation.

Incompatibility - Materials To Avoid: Water, Metals. acids, Aluminum, Zinc, gelatin, nitromethane, leather, flammable liquids, organic halogens. Strong oxidizing agents, Strong bases, Copper, Copper alloys, nickel.

Hazardous Decomposition Or Byproducts: Nitrogen oxides, Carbon monoxide.

Possibility of Hazardous Reactions: Will occur [ ] Will not occur [X]

Conditions To Avoid - Hazardous Reactions: No data available.

11. TOXICOLOGICAL INFORMATION

Toxicological Information:

Epidemiology: No information found.
Teratogenicity: No information available. Reproductive Effects: Mutagenicity: See actual entry in RTECS for complete information.
Neurotoxicity:

Irritation or Corrosion:

CAS# 1310-73-2: Sodium hydroxide:
Acute toxicity, LDLO, Oral, Species: Rabbit, 500.0 MG/KG.
Results:
Effects on Newborn: Stillbirth.
Effects on Newborn: Live birth index (# fetuses per litter; measured after birth).
Effects on Newborn: Weaning or lactation index (e.g., # alive at weaning per # alive at day {4)}.
- Naunyn-Schmiedeberg's Archiv fuer Experimentelle Pathologie und Pharmakologie., Vol/p/yr: 184,587, 1937

Standard Draize Test, Skin, Species: Rabbit, 500.0 MG, 24 H.
Results:
Behavioral: Somnolence (general depressed activity).
Vascular: BP lowering not charactertized in autonomic section.
Skin and Appendages: Skin: After topical exposure: Corrosive.
- "Sbornik Vysledku Toxixologickeho Vysetreni Latek A Pripravku," , Institut Pro Vychovu Vedoucicn P, Marhold, J.V., Institut Pro Vychovu Vedoucicn, Pracovniku Chemickeho, Prumyclu Praha Czechoslovakia, Vol/p/yr: -,7, 1972

Skin corrosion/irritation. Ingestion: Skin.

Carcinogenicity/Other Information:

CAS# 1310-73-2: Not listed by ACGIH, IARC, NTP, or CA Prop 65. CAS# 60-00-4: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS #	Hazardous Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
1310-73-2	Sodium hydroxide	n.a.	n.a.	n.a.	n.a.

12. ECOLOGICAL INFORMATION

General Ecological Information:

Ecotoxicity: Fish: Channel catfish: LC50 = 129-159 mg/L; 96Hr; UnspecifiedFish: Rainbow trout: LC50 = 340 mg/L; 24Hr; UnspecifiedFish: Bluegill/Sunfish: LC50 = 129-159 mg/L; 96Hr; UnspecifiedFish: Fathead Minnow: 100% Lethal = 750 ppm; 96 Hr; Static bioassayWater flea Daphnia: LC50 100 ppm; 96 Hr; Static bioassay If released to soil, EDTA is expected to complex with trace metals and alkaline earth metals present in the soil, thereby causing an increase in the total solubility of the metals. EDTA may eventually predominate as the Fe(III) chelate in acidic soils and as the Ca chelate in alkaline soils. Biodegradation of EDTA in aerobic soils is the dominant removal mechanism, although biodegradation in anaerobic soils is negligible. glycine. EDTA is not expected to bioaccumulate in aquatic organisms, adsorb to suspended solids or sediments or volatilize from water surfaces.
Environmental: EDTA and its chelates are expected to leach readily through soil and significant volatilization from soil is not expected. If released to water, EDTA is expected to complex with trace metals and alkaline earth metals. Biodegradation of EDTA is expected to take place relatively slowly under aerobic conditions and to be negligible under anaerobic conditions. Cometabolism has been suggested as the mechanism for EDTA biodegradation. EDTA may react with photochemically generated hydroxyl radicals (half-life 229 days) and it may photodegrade.
Physical: Compounds identified as possible biodegradation products of the ammonium ferric chelate of EDTA are as follows: ethylenediamine triacetic acid (ED3A), iminodiacetic acid (IDA), N,N-ethylenediamine diacetic acid (N,N-EDDA), N,N'-EDDA,

ethylenediamine monoacetic acid (EDMA), nitrilotriacetic acid (NTA) and glycine. The following photodegradation products of Fe(III)-EDTA have been identified: carbon monoxide, formaldehyde, ED3A, N,N-EDDA, N,N'-EDDA, IDA, EDMA and glycine. Other: None.

Results of PBT and vPvB assessment: CAS# 1310-73-2: Sodium hydroxide:
LC50, Western Mosquitofish (Gambusia affinis), adult(s), 125000. UG/L, 24 H, Mortality, Water temperature: 22.00 C (71.6 F) - 24.00 C (75.2 F) C, pH: 9.00; Toxicity to Gambusia affinis of Certain Pure Chemicals in Turbid Waters, Wallen, I.E., W.C. Greer, and R. Lasater, 1957

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

14. TRANSPORT INFORMATION

LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: NA 1760, COMPOUNDS, CLEANING LIQUID, CLASS 8, PG II.
DOT Hazard Class: 8 CORROSIVE
UN/NA Number: NA 1760 **Packing Group:** II

LAND TRANSPORT (Canadian TDG):

TDG Shipping Name: SODIUM HYDROXIDE, LIQUID. No information available.

15. REGULATORY INFORMATION

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

[ ] Yes [X] No Acute (immediate) Health Hazard
[ ] Yes [X] No Chronic (delayed) Health Hazard
[ ] Yes [X] No Fire Hazard
[ ] Yes [X] No Sudden Release of Pressure Hazard
[ ] Yes [X] No Reactive Hazard

Other US EPA or State Lists
TSCA: Inventory

CAS # 1310-73-2 **Hazardous Components (Chemical Name)** Sodium hydroxide

16. OTHER INFORMATION

Revision Date: 05/01/2017
Additional Information About This Product: No data available.

Company Policy or Disclaimer: While the information is believed to be correct, Kirby Chemical Company shall in no event be responsible for any damages whatsoever, either directly or indirectly, resulting from any publication or use of or reliance upon data contained herein. No warranty, either expressed or implied, of merchantability, of fitness for a particular purpose, or of any other nature with respect to the product or to the data, is made herein.

The information contained in this Material Safety Data Sheet is supplied pursuant to OSHA's Hazard Communication Standard, 29 CFR 1910.1200. Standard must be consulted for specific requirements