

  
**EKAF CHEMICAL**  
**SAFETY DATA SHEET**

**SECTION 1 PRODUCT AND COMPANY INFORMATION**

Product Name(s): NC-1 Sanitizer  
 Product Code(s): NC-1; NC-100  
 Uses: Used as a Sanitizing Agent.  
 Company: EKaf Chemical, Inc.  
 Address: 123 Main Street; Utica, NY 13501; USA  
 Telephone Number: (315) 555-1234 Fax Number: (315) 555-5678  
 Emergency Telephone Number: (800) 262-8200  
 Date Issued: April 17, 2013 Date Revised: April 17, 2013

This MSDS complies with the OSHA Hazard Communication Standard 29CFR1910.1200 as revised in May 2012 (GHS). It may not meet requirements in other countries.

**SECTION 2 HAZARDS IDENTIFICATION**

GHS Classification: **DANGER**  
 Flammable Liquid (Category 4)  
 Skin Irritant (Category 1B)  
 Single Exposure (Category 3)  
 Corrosive to Metals (Category 1)  
 Aquatic Acute Toxicity (Category 3)  
 Aquatic Chronic Toxicity (Category 3)



GHS Hazard Statements: Combustible liquid  
 Causes severe skin burns and eye damage  
 May cause drowsiness or dizziness  
 May be corrosive to metals  
 Harmful to aquatic life with long lasting effects

GHS Precautionary Statements:	<u>Prevention:</u> Keep away from flames and hot surfaces. – No smoking.  Wear protective gloves/protective clothing/eye protection/face protection.  Do not breathe mists.  Use only outdoors or in a well-ventilated area.  Wash hands/skin thoroughly after handling.  Keep only in original container.	<u>Response:</u> In case of fire: Use water/carbon dioxide/foam/water spray to extinguish.  If swallowed: Rinse mouth. Do NOT induce vomiting.  If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  Wash contaminated clothing before reuse.  If inhaled: Remove person to fresh air and keep comfortable for breathing.  Immediately call a poison center/doctor/
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**SECTION 2 HAZARDS IDENTIFICATION**

hospital.

Absorb spillage to prevent material damage.

Collect spillage.

Storage:

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

Store locked up.

Store in corrosive resistant container with a resistant inner liner.

Disposal:

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

GHS

Assessment:

Approximately 0% of this mixture consists of ingredient(s) of unknown acute toxicity.

Approximately 0% of the mixture consists of ingredient(s) of unknown hazards to the aquatic environment.

**SECTION 3 COMPOSITION / INGREDIENTS**

Component	CAS Number	EC Number	Concentration
Water	7732-18-5	231-791-2	80 - 90 %
Ethyl alcohol	64-17-5	200-578-6	1 - 3 %
Isopropyl alcohol	67-63-0	200-661-7	1 - 2 %
Potassium hydroxide	1310-58-3	215-181-3	3 - 4 %
Halogenated phenol	Proprietary	--	5 - 6 %

Trade Secret Claims: Specific chemical identity and/or exact percentage (concentration) of components has been withheld as a trade secret.

**SECTION 4 FIRST AID MEASURES**

- First Aid - Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.
- First Aid - Skin: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately if irritation develops and/or persists. Wash contaminated clothing before reuse.
- First Aid - Ingestion: If swallowed and feel unwell, call a physician or poison control center. DO NOT induce vomiting unless directed to do so by a physician or poison control center. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.
- First Aid - Inhalation: If respiratory symptoms or other symptoms of exposure develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek immediate medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.
- Important Symptoms / Effects – Acute and Delayed: Irritation, rash, chemical burns.
- Advice to Physician: Treat symptomatically.

**SECTION 5 FIRE FIGHTING MEASURES**

Extinguishing Media:	Treat surrounding material. Water spray, dry chemical, carbon dioxide, or foam is recommended. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.
Specific Hazards:	This material is combustible and may be ignited by various ignition sources. This product may give rise to hazardous vapors in a fire. Vapors/fumes may be irritating, corrosive and/or toxic.
Protective equipment and procedures for fire-fighters.	Wear full protective clothing and self-contained breathing apparatus.
Additional Advice:	Vapors may travel considerable distances to a source of ignition where they can ignite, flash back, or explode. May create vapor/air explosion hazard indoors, in confined spaces, outdoors, or in sewers. Vapors are heavier than air and can accumulate in low areas. If container is not properly cooled, it can rupture in the heat of a fire.

**SECTION 6 ACCIDENTAL RELEASE MEASURES**

Spill Procedures:	Wipe up or contain spills with an absorbent towel/material and transfer into suitable containers for recovery or disposal. Finally flush area with water.
Personal Precautions:	Wear suitable protective clothing. Eliminate all ignition sources.
Environmental Precautions:	Prevent the material from entering drains or water courses. Do not discharge directly to a water source. Advise Authorities if spillage has entered watercourse or sewer or has contaminated soil or vegetation.

**SECTION 7 HANDLING AND STORAGE**

Handling:	Wear appropriate personal protection (See Section 8) when handling this material. The work area must be equipped with a safety shower and eye wash station. If exposed to the solution, avoid contact with skin and eyes. Wash thoroughly after handling solution.
Storage:	Keep container(s) tightly closed. Use and store this material at ambient temperatures away from heat, direct sunlight, ignition sources and hot metal surfaces. Keep from freezing. Keep away from any incompatible materials (see Section 10).
Additional Advice:	Store in original container. Store as directed by the manufacturer.

**SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION**

Occupational Exposure Standards:	Exposure limits are listed below, if they exist.
Water:	None.
Ethyl alcohol:	ACGIH: 1000 ppm 8 h TLV-TWA. OSHA: 1000 ppm (1900 mg/m <sup>3</sup> ) PEL. UK: 1000 ppm TWA.
Isopropyl alcohol:	ACGIH: 200 ppm 8 h TLV-TWA. ACGIH: 400 ppm 15 min STEL OSHA: 400 ppm (980 mg/m <sup>3</sup> ) PEL. UK: 400 ppm TWA. UK: 500 ppm STEL.
Potassium hydroxide:	ACGIH: 2 mg/m <sup>3</sup> 8 h TLV-TWA (ceiling). UK: 2 mg/m <sup>3</sup> STEL.
Halogenated phenol:	None.

**SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION**

Engineering Control Measures:	Engineering methods to prevent or control exposure are preferred. Methods include process or personnel enclosure, mechanical ventilation (local exhaust), and control of process conditions.
Respiratory Protection:	A NIOSH-approved air purifying respirator is recommended under conditions where airborne concentrations are expected to exceed exposure limits.
Hand Protection:	The use of gloves impervious to the specific material handled is advised to prevent skin contact, possible irritation, and skin damage (see glove manufacturer literature for information on permeability).
Eye Protection:	Approved eye protection (safety glasses with side-shields and/or goggles) to safeguard against potential eye contact, irritation, or injury is recommended. Depending on conditions of use, a face shield may be necessary.
Body Protection:	Impervious clothing should be worn as needed to prevent skin contact.

**SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**

Physical State:	Liquid
Color:	Clear
Odor:	Alcoholic
Odor Threshold:	5 - 10 ppm (ethyl alcohol) 22 - 40 ppm (isopropyl alcohol)
pH:	> 12
Melting Point/Range (°C/°F):	< 0°C / 32°F (water)
Boiling Point/Range (°C/°F):	> 78.5°C / 173.3°F
Flash Point (PMCC) (°C/°F):	ca. 61°C / 141.8°F (est.)
Evaporation Rate:	Slower than ether
Flammability / Explosivity Limits in Air (%):	Lower limit: 2.0% (v/v) at 25°C (alcohol) Upper limit: 19.0% (v/v) at 25°C (alcohol)
Vapor Pressure:	59.3 mmHg at 25°C (ethyl alcohol) 44.4 mmHg at 25°C (isopropyl alcohol)
Vapor Density (Air = 1):	Heavier than air.
Relative Density:	ca. 1.00 (20°C)
Solubility in Water:	Completely soluble
Partition Coefficient:	Not available.
Autoignition Temperature (°C/°F):	> 333°C / > 631.4°F (est.)
Decomposition Temperature (°C/°F):	Not available.
Viscosity:	Not available.
Explosive Properties:	None.
Oxidizing Properties:	None.
Volatile Organic Content (VOC) (g/l):	> 110 g/l (as defined by 40CFR51.100)

**SECTION 10 STABILITY AND REACTIVITY**

Reactivity:	Product will not undergo additional reaction.
Stability:	Stable under normal storage conditions.

**SECTION 10 STABILITY AND REACTIVITY**

Hazardous Polymerization:	Will not occur.
Conditions to Avoid:	Contact with incompatible materials, excessive heat.
Incompatibilities:	Oxidizing agents, strong acids.
Hazardous Decomposition Products:	Oxides of carbon, hydrogen chloride and aromatic fragments, toxic by-products.

**SECTION 11 TOXICOLOGICAL INFORMATION**

*If available, toxicity data for the product is given; otherwise component data is listed.*

Acute Toxicity:	This product is not expected to be appreciably toxic. (Water) No data. (Ethyl alcohol) Oral LD50 (rat) 9.9 g/kg; Inhalation LC50 (rat) 20,000 ppm/10 hr (Isopropyl alcohol) Oral LD50 (rat) 4.7 g/kg; Dermal LD50 (rabbit) 12.9 g/kg; Inhalation LC50 (rat) 19,000 ppm (8 hr) (Potassium hydroxide) Oral LD50 (rat) 273-1230 mg/kg (Halogenated phenol) Oral LD50 (rat) 1700 mg/kg
Skin Corrosion / Irritation:	This product is expected to be corrosive to skin. (Water) No data. (Ethyl alcohol) No data. (Isopropyl alcohol) Application to animal skin produced negligible irritation. (Potassium hydroxide) Corrosive to skin. (Halogenated phenol) Irritating to skin.
Serious Eye Damage / Irritation:	This product is expected to be corrosive to the eyes. (Water) No data. (Ethyl alcohol) Irritating to eyes. (Isopropyl alcohol) Moderately to severely irritating to eyes (rabbit). (Potassium hydroxide) Corrosive to eyes. (Halogenated phenol) Slight conjunctivitis was noted in eyes of exposed rabbits.
Respiratory or Skin Sensitization:	The product is may cause dermal sensitization in rare cases or individuals. (Water) No data. (Ethyl alcohol) No data. (Isopropyl alcohol) No data. (Potassium hydroxide) No data. (Halogenated phenol) Mice demonstrated a statistically significant dose dependent hypersensitivity response.
Mutagenicity:	This product is not expected to be mutagenic. (Water) No data. (Ethyl alcohol) Not mutagenic (Ames test systems). In DNA repair tests with different strains of E. coli, very weak positive results along with negative results were seen. (Isopropyl alcohol) Not genotoxic in a variety of tests. (Potassium hydroxide) No data. (Halogenated phenol) No evidence of mutagenicity (Ames).
Carcinogenicity:	This product may be weakly carcinogenic, based on limited animal data. Its significance to humans is not known due to typical exposure routes. (Water) No data. (Ethyl alcohol) Evidence suggests an increased development of liver tumors in experimental animals. Classified as carcinogenic in humans in beverages only (IARC). (Isopropyl alcohol) Not an animal carcinogen. (Potassium hydroxide) Not carcinogenic; however, produced tumors on skin

**SECTION 11 TOXICOLOGICAL INFORMATION**

	of mice similar to coal tar. (Halogenated phenol) There was an increased incidence of renal tubule adenomas or carcinomas in male mice.
Reproductive / Developmental Toxicity:	This product is not expected to be developmentally harmful by typical exposure routes. (Water) No data. (Ethyl alcohol) Teratogenic effects, as well as central nervous system defects, have been observed in mice and rats offspring (oral consumption). (Isopropyl alcohol) Does not produce adverse effects on reproduction and it is not a teratogen. (Potassium hydroxide) No data. (Halogenated phenol) Developmental effects were not observed in rats. No abnormalities were found in rabbit fetuses studied.
Chronic/Subchronic Toxicity: Specific Target Organ/Systemic Toxicity – Single Exposure:	(Water) No data. (Ethyl alcohol) Caused central nervous system depression in animals. (Isopropyl alcohol) May cause transient central nervous system depression. (Potassium hydroxide) No data. (Halogenated phenol) No data.
Chronic/Subchronic Toxicity: Specific Target Organ/Systemic Toxicity – Repeated Exposure:	(Water) No data. (Ethyl alcohol) Effects on the liver, kidneys, pancreas have been observed in animals. (Isopropyl alcohol) Changes in the liver and kidneys have been noted. (Potassium hydroxide) No data. (Halogenated phenol) In rats, there was an increase in the incidence and severity of nephropathy and renal tubule regeneration.
Aspiration Hazard:	This product may pose a slight aspiration hazard.
Additional Information:	None.

**SECTION 12 ECOLOGICAL INFORMATION**

*If available, ecological data for the product is given; otherwise component data is listed.*

Acute Ecotoxicity:	This product may be harmful to aquatic organisms with long lasting effects. (Water) No data. (Ethyl alcohol) LC50 (rainbow trout) 13,000 mg/l/96h; LC50 (Bleak) 11,000 mg/l/96h; LC50 (Daphnia magna) 11,853 mg/l/48h; LC50 (green algae) 9310 mg/l/48h. (Isopropyl alcohol) LC50 (fathead minnows) 6.12 g/l/96 hr. (Potassium hydroxide) TLm (median tolerance level) (mosquito fish) 80 ppm/24 hr. (Halogenated phenol) LC50 (Rainbow trout) 0.72 ppm/96 hr; EC50 (Daphnia magna) 0.59 ppm/48 hr
Mobility:	(Water) No data. (Ethyl alcohol) Expected to have very high mobility based upon a Koc of 2.75. (Isopropyl alcohol) Expected to have very high mobility based upon an estimated Koc of 25. (Potassium hydroxide) No data. (Halogenated phenol) Expected to have slight mobility based upon a Koc value of 2,050.
Persistence/Degradability:	(Water) No data. (Ethyl alcohol) Biodegradable (theoretical BOD of 84% after 20 days). (Isopropyl alcohol) Readily degraded in aerobic aqueous systems. (Potassium hydroxide) No data. (Halogenated phenol) Biodegradation half-life is approximately 1 to 3 days.

**SECTION 12 ECOLOGICAL INFORMATION**

Bioaccumulation:	(Water) No data. (Ethyl alcohol) An estimated BCF of 3 suggests the potential for bioconcentration in aquatic organisms is low. (Isopropyl alcohol) An estimated BCF of 3 suggests the potential for bioconcentration in aquatic organisms is low. (Potassium hydroxide) No data. (Halogenated phenol) A BCF value of 75 measured in fish, suggests bioconcentration in aquatic organisms is moderate.
Other adverse effects:	None.

**SECTION 13 DISPOSAL CONSIDERATION**

Environmental precautions:	Prevent the material from entering drains or water courses. Do not discharge directly to a water source. Advise Authorities if spillage has entered watercourse or sewer or has contaminated soil or vegetation.
Product Disposal:	Dispose in accordance with all local, state (provincial), and federal regulations. Under RCRA, it is the responsibility of the product's user to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This is because the product uses, transformations, mixtures, processes, etc. may render the resulting materials hazardous.
Container Disposal:	Do not remove label until container is thoroughly cleaned. Empty containers may contain hazardous residues. This material and its container must be disposed of in a safe way.

**SECTION 14 TRANSPORT INFORMATION**

DOT Proper Shipping Name:	Potassium hydroxide, solution
UN Number:	UN1814
UN Class:	8
UN Packaging Group:	III
Reportable Quantity:	1000 pounds (Potassium hydroxide)
Marine Pollutant:	None.

*Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Consult current IATA Regulations prior to shipping by air.*

**SECTION 15 REGULATORY INFORMATION**

US Toxic Substance Control Act:	All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.
Canadian Domestic Substance List:	All components are listed on the Domestic Substance List.
EU Existing Inventory of Chemical Substances:	All components of this product are in compliance with the inventory listing requirements of the E.U. Existing Inventory of Chemical Substances (EINECS). All components have been pre-listed under REACH.
TSCA Sec.12(b) Export Notification:	This product does not contain a chemical at or above de minimis concentrations which requires reporting.
Canadian WHMIS Classification:	E, B.3, D.2.B This product has been classified in accordance with the hazard criteria of

**SECTION 15 REGULATORY INFORMATION**

	the CPR and the MSDS contains all of the information required by the CPR.
Massachusetts Right-To-Know:	This product contains materials subject to disclosure under Massachusetts' Right-To-Know Law: - Ethyl alcohol - Isopropyl alcohol - Potassium hydroxide
New Jersey Right-To-Know:	This product contains materials subject to disclosure under New Jersey's Right-To-Know Law: - Ethyl alcohol (0844) - Isopropyl alcohol (1076) - Potassium hydroxide (1571)
Pennsylvania Right-To-Know:	This product contains materials subject to disclosure under Pennsylvania's Right-To-Know Law: - Ethyl alcohol - Isopropyl alcohol - Potassium hydroxide
California Proposition 65:	This product does not contain materials which the State of California has found to cause cancer, birth defects or other reproductive harm.
SARA TITLE III-Section 311/312 Categorization (40 CFR 370):	Flammable, immediate, delayed hazard
SARA TITLE III-Section 313 (40 CFR 372):	This product does not contain materials which are listed in Section 313 at or above de minimis concentrations.
CERCLA Hazardous Substance (40 CFR 302)	This product contains materials subject to reporting under CERCLA and/or Section 304 of EPCRA: - Potassium hydroxide (1000 pounds)
Water Hazard Class (WGK):	This product is slightly water-endangering (WGK=1).
Other Chemical Inventories:	Australia (AICS): All components are listed. China (IECSC): All components are listed. Japan (ENCS): All components are listed. Korea (KCI): All components are listed. Philippines (PICCS): All components are listed.

**SECTION 16 OTHER INFORMATION**

NFPA Rating - HEALTH:	3		
NFPA Rating - FIRE:	2		
NFPA Rating - REACTIVITY:	0		
NFPA Rating - SPECIAL:	NONE		
MSDS Date Issued:	April 17, 2013		
MSDS Current Version:	1.0	Version Date:	April 17, 2013
MSDS Revision History:	v1.0 Initial version.		
Abbreviations:	GHS: Globally Harmonized System of Classification and Labeling of Chemicals CAS#: Chemical Abstract Services Number ACGIH: American Conference of Governmental Industrial Hygienists OSHA: Occupational Safety and Health Administration		



<b>SECTION 16 OTHER INFORMATION</b>
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NFPA: National Fire Protection Association  
 DOT: US Department of Transportation  
 RCRA: US Resource Conservation and Recovery Act  
 TLV: Threshold Limit Value  
 TWA: Time-Weighted Average  
 PEL: Permissible Exposure Limit  
 STEL: Short Term Exposure Limit  
 WEEL: Workplace Environmental Exposure Levels  
 AIHA: American Industrial Hygiene Association  
 NTP: National Toxicology Program  
 IARC: International Agency for Research on Cancer  
 R: Risk  
 S: Safety  
 LD50: Lethal Dose 50%  
 LC50: Lethal Concentration 50%  
 EC50: Effective Concentration 50%  
 BCF: Bioconcentration Factor  
 BOD: Biological Oxygen Demand  
 Koc: Soil Organic Carbon Partition Coefficient.  
 Tlm: Median Tolerance Limit

Key References: United States National Library of Medicine's TOXNET  
 Patty's Toxicology, 5<sup>th</sup> Edition  
 European Commission's Institute for Health and Consumer Protection  
 American Conference of Governmental Industrial Hygienists  
 International Agency for Research on Cancer  
 United States National Toxicology Program  
 United States Occupational Safety and Health Administration  
 United States Department of Transportation  
 Supplier Material Safety Data Sheets

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Prepared by: ChemOne Compliance, LLC