



C100 CITRIC KLEEN

MATERIAL SAFETY DATA SHEET

Last Revised: 30 December 2024

Substance/preparation and company identification

Company:

Warrior Pte Ltd

Contact address:

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Singapore 739279

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Composition/Information on Ingredients

Citric Solvent 30 %

Caustic Soda 1 %

Surfactant 10 %

Water Balance

Chemical Family: Acidic

Formula: Mixture

C.A.S. Registry No.: 1310-73-2

TSCA Inventory Status: All ingredients are listed on the USEPA's TSCA inventory

Canadian Domestic Substances List Status:

All ingredients have been nominated or are eligible for inclusion.

Workplace Hazardous Materials Information System (WHMIS) Classification: E

Product Use: Cleaning agent

SARA 313 Information: Not Applicable

Hazard Identification

Hazard Summary Statement:

CAUTION! **CORROSIVE LIQUID**. Contact with skin results in severe burns with possible deep ulceration. Eye contact will produce severe and painful injury. Inhalation of mists causes irritation of the nose, throat, mucous membranes and lungs.

C.A.S.# 77-92-9 Citric Acid 99.5% EINECS/ELINCS 201-069-1

Material Number in Product TLV-TWA PEL-TWA

Legislative Footnotes

Ingredient listed on SARA Section 313 List of Toxic Chemicals.

Ingredient listed on the *Pennsylvania Hazardous Substances List*.

Ingredient listed on the California listing of *Chemicals Known to the State to Cause Cancer or Reproductive Toxicity*.

Ingredient listed on the *Massachusetts Substance List*.

Workplace Hazardous Materials Information System ingredient found on the Ingredient Disclosure List - Canada.

Ingredient listed on the *New Jersey Right to Know Hazardous Substance List*.



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Notes

TLV-TWA - Threshold Limit Value - Time Weighted Average guideline for concentration of the chemical substance in the ambient workplace air. American Conference of Governmental Industrial Hygienists (ACGIH).

OSHA PEL - OSHA Permissible Exposure Limit, 8-hour TWA. 29 CFR 1910.1000, Transitional Limits column, Table Z-1-A, Table Z-2 and Table Z-3.

First Aid Measures

Threshold Limit Value: 2 mg/m³ - Ceiling.

Permissible Exposure Limit (PEL): 2 mg/m³

Primary Routes of Exposure: Inhalation, skin and eye contact.

Effects of Overexposure:

This material is extremely corrosive to all body tissue. Skin contact will result in severe burns and frequently with deep ulceration. Eye contact will produce severe and painful injury. Inhalation of mist will cause irritation and may even cause damage to the entire respiratory tract varying from mild irritation of mucous membranes to severe pneumonitis. Symptoms may not be immediately painful or visible. Swallowing usually results in severe injury.

Emergency and First Aid Procedures:

Inhalation: Remove affected individual to fresh air. Obtain medical attention immediately.

Eye Contact: Immediately flush eyes with lukewarm water for at least 15 minutes while lifting upper and lower eyelids. Continue to flush the eyes if there is any indication of residual chemical. Seek medical attention immediately.

Skin Contact: Immediately remove contaminated clothing, and flush exposed area with lukewarm water for at least 15 minutes. Continue to flush skin if there is any indication of residual chemical. Seek medical attention immediately.

Ingestion: DO NOT INDUCE VOMITING! Immediately dilute by drinking water or milk, then neutralize with diluted vinegar or fruit juice.

Fire-fighting Measures

Flash Point: Not combustible

Lower Explosive Limit (LEL): Not Applicable

Upper Explosive Limit (UEL): Not Applicable

Self-Ignition Temperature: Not Applicable



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Accidental Release Measures

Steps to be taken in case material is released or spilled:

- Issue a warning: CORROSIVE MATERIAL.
- Keep non-essential personnel away from spill area.
- Wear rubber protective clothing, e.g., gloves, boots, aprons, and chemical splash goggles and face shield. Do not touch spilled material. Contain the spill and use absorbents and pumps to remove "ponded" liquid.
- Transfer the spilled material to caustic resistant containers labeled: CORROSIVE.
- Avoid flushing chemical into public sewers or water system.
- With careful handling, dilute acid, preferable acetic acid, may be used to neutralize final traces of caustic. Flush the cleaned area with water.

Waste Disposal Method: HAZARDOUS WASTE. EPA Hazardous Waste Number: D002 (if pH is greater than 12.5). Dispose of in a licensed hazardous waste disposal facility in accordance with all applicable Federal, State and Local health and pollution laws and regulations. (See 40 CFR 261).

Personal Protection

Ventilation: Ventilation should always be provided to draw mists and vapors away from workers to prevent routine inhalation. Ventilation should be adequate to maintain the ambient workplace atmosphere below the limits listed in Section II.

Respiratory Protection: Wear a NIOSH/MSHA-approved, airline or self-contained respirator whenever exposures exceed the limits listed in Section II. Use in accordance with the manufacturers use limitations and OSHA Standard 1910.134 (29 CFR). (MSDS - SODIUM HYDROXIDE SOLUTION - 50%)

Eye/Face Protection: Chemical goggles with full face shield.

Protective Equipment: Wear impervious (e.g. rubber) gloves, boots or shoes, coveralls or other protective clothing as appropriate to prevent contact with liquid. Check with glove/clothing manufacturers to determine materials resistant to the chemicals shown in Section II.

Additional: *Do not smoke or consume food or beverage in the work areas. Wash thoroughly after handling the product.*



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Handling and Storage

Material Handling:

Do not breathe mists or vapors. Avoid skin and eye contact. Use under well-ventilated conditions. Utilize good personal hygiene practices, e.g., thoroughly washing after handling the product. Remove contaminated clothing and shower at once. Wash contaminated clothing before reuse. (Discard leather shoes.) PROVIDE A SAFETY SHOWER AND EYEWASH STATION IN THE WORK AND HANDLING AREAS.

Storage:

Store in water-tight containers in a cool, dry place separate from the normal work area and away from materials that react with sodium hydroxide. Use corrosion resistant structural materials and lighting and ventilation systems in the storage area. Store in suitable, labeled containers and maintain in a tightly closed condition when not in use. Protect containers from physical damage. Post appropriate warning signs.

Hazard Codes

NFPA (2002) HMIS (National Fire Protection Association)
(Hazardous Materials Identification System)

Health: 3
Flammability: 0
Reactivity: 1
Special: Corrosive Personal Protection: X*

Key:

0 = Insignificant * See MSDS for specified protection
1 = Slight
2 = Moderate
3 = High
4 = Extreme(MSDS - SODIUM HYDROXIDE SOLUTION - 50%)

Physical and Chemical Properties

Odor: Mild Citric, slightly pungent Boiling Point: 148°C (298°F)
Percent Volatiles: 50% Vapor Pressure: 19 mm Hg @ 65.5°C (150°F)
Solubility in Water: Soluble Vapor Density: N.A.
Physical State: Liquid

Disposal Considerations

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 261.3. 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



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Stability and Reactivity

<u>Stability:</u>	Stable
<u>Hazardous Polymerization:</u>	Will not occur
<u>Hazardous Decomposition Products:</u>	Not combustible
<u>Incompatibility (Materials to Avoid):</u>	

This product reacts with water generating heat. Do not add water to this product, always add caustic elements to water slowly and in small amounts to avoid boiling and spattering. This product reacts violently or explosively with chlorinated hydrocarbons. It attacks leather and wool resulting in destruction of those materials and possible chemical exposure to the individual. Caustic solutions can generate hydrogen gas on contact with aluminum, zinc or materials galvanized with zinc.

Transport Information

IDENTIFICATION - DOMESTIC TRANSPORTATION

Proper Shipping Name (172.101(c)):	SODIUM HYDROXIDE SOLUTION
(Technical Name(s)) 172.203(k):	Contains 50% Sodium Hydroxide)
Hazard Class 172.101(d):	8 UN/NA# 172.101(e): UN 1824
Haz. Substance 171.8:	Sodium Hydroxide Reportable Quantity: 1,000 Lbs
Inhalation Hazard 172.2a(b):	N/A
Package Code 172.101(f):	PG II Placarded: CORROSIVE
PACKAGING (Part 173)	
<input checked="" type="checkbox"/> Packaging Section (172.101(i)) –(Col. 8(A): 173.154)(Col. 8(B): 173.202)(Col. 8(C): 173.242)	
<input checked="" type="checkbox"/> General Packaging Section - General 173.24 Hazard Class: CORROSIVE	

MARKING

- A. Proper Shipping Name (172.301(a)) (Technical Name) (172.301(b))
 - B. UN/NA Number (172.301(a))
 - C. Name & Address (172.301(d))
 - D. THIS END UP (172.312(a))
 - E. Hazardous Substance RQ (Name) (172.324)
- ORM Designation (172.316(a))
Inhalation Hazard (172.313(a))
- #### DOMESTIC LABELING
- 1. HMT LABELS (172.400)
 - 2. Additional Subsidiary Hazard (172.402(a))

IATA 2005 Edition

Proper Shipping Name (Col. B):
Class/Division (Col. C): 8 Subsidiary Risk (Col. D): N/A
UN/ID# (Col. A): UN 1824
Carrier Special Provisions (Col. M): A3

PACKAGING

- Max. Qty. Per Pkg. (Cols. H/J) - Passenger: 1 Liter Cargo: 30 Liters
- Packaging Instructions (Cols. G/I) - Passenger: 809 Cargo: 813



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Regulatory Information

All other national and local regulations, if applicable to the use, transport or disposal of this product, should be observed.

Other Information

- Any other intended applications should be discussed with the manufacturer.
- If you have any queries relating to this MSDS, its contents or any other product safety related questions, please write to the following e-mail address: war99@singnet.com.sg
- The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The data do not describe the product's properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.