

SAFETY DATA SHEET

KLEEN MCT103

1. Chemical product and company identification

Product name KLEEN MCT103
Synonyms Not available.
Recommended use and Limitations on use
Recommended use Reverse Osmosis membrane cleaner
Issue date Jan-26-2011
Revision date 15/01/2018
Supersedes date 14/01/2018

Company/undertaking identification

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2. Hazards identification

Emergency overview May be harmful if swallowed. Causes severe skin burns and eye damage.

Hazard categories

Physical hazards	Not classified.	
Health hazards	Acute toxicity, oral	Category 5
	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
Environmental hazards	Not classified.	

Label elements

Pictograms



Signal word

Danger

Hazard statement

H303	May be harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.

Precautionary statement

Prevention

P201	Avoid breathing dust/fume/gas/mist/vapours/spray.
P202	Obtain special instructions before use.
P262	Do not handle until all safety precautions have been read and understood.
P264	Do not get in eyes, on skin, or on clothing.
P264	Wash thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Response

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P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P353	Rinse skin with water/shower.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P363	Wash contaminated clothing before reuse.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P310	Immediately call a POISON CENTER/doctor.

Storage

P405	Store locked up.
P410	Protect from sunlight.

Disposal

P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
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Physical and chemical hazards The product is stable and non-reactive under normal conditions of use, storage and transport. No unusual fire or explosion hazards noted.

Health hazards May be harmful if swallowed. Causes severe skin burns. Causes serious eye damage.

Environmental hazards The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Supplemental information None.

3. Composition/information on ingredients

Substance/mixture Mixtures

Chemical name	Concentration (%)	CAS Number
Hydroxyacetic acid	10 - 30	79-14-1
N-hydroxyethylenediamine triacetic acid trisodium salt	10 - 30	139-89-9

4. First aid measures

Inhalation	Call a physician if symptoms develop or persist.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Rinse with water. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms and health effects	Corrosive effects. Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Expected acute symptoms and delayed symptoms	Corrosive effects. Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Personal protection for first-aid responders	IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.
Notes to physician	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

5. Fire-fighting measures

Extinguishing media	Foam. Powder. Carbon dioxide (CO2).
Extinguishing media to avoid	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards	During fire, gases hazardous to health may be formed.
Special fire fighting procedures	Move containers from fire area if you can do so without risk.
Protection of fire-fighters	Move containers from fire area if you can do so without risk.

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General fire hazards No unusual fire or explosion hazards noted.
Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Keep unnecessary personnel away. Do not breathe mist or vapor. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

For emergency responders Keep unnecessary personnel away.

Environmental precautions Not available.

Clean-up methods and materials and containment measures Use water spray to reduce vapors or divert vapor cloud drift.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS.

Recovery and neutralization Not available.

Prevention of secondary hazards Not available.

7. Handling and storage

Handling Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. When using, do not eat, drink or smoke. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

Storage Store locked up. Store in original tightly closed container.

8. Exposure controls/personal protection

Exposure limits

No exposure limits noted for ingredient(s).

Biological limit values No biological exposure limits noted for the ingredient(s).

Monitoring methods Follow standard monitoring procedures.

Engineering measures Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

Personal protective equipment

Respiratory protection Chemical respirator with organic vapor cartridge and full facepiece.

Hand protection Rubber, butyl, viton or neoprene glove. Wash off after each use. Replace as necessary. Wear appropriate chemical resistant gloves.

Eye protection Splash proof chemical goggles. Face shield. Wear safety glasses with side shields (or goggles) and a face shield.

Skin and body protection Chemical resistant clothing. Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Hygiene measures

Observe any medical surveillance requirements. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

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9. Physical and chemical properties

Appearance	Liquid
Physical state	Liquid.
Form	Not available.
Color	Colorless to amber
Odor	Slight acetic acid odor
pH (concentrated product)	3.4 Neat
pH in aqueous solution	3.3 (5% Solution)
Melting point/freezing point	-21 °C
Boiling point, initial boiling point, and boiling range	99 °C
Flash point	Not available.
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	18 mmHg
Vapor pressure temp.	21 °C
Vapor density	> 1
Relative density	1.35
Relative density temperature	21 °C
Density	Not available.
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Evaporation rate	Slower than Ether
Flammability (solid, gas)	Not applicable.
Other data	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Pour point	-18 °C
Specific gravity	1.35
Viscosity	50 mPa.s
Viscosity temperature	21 °C
VOC (Weight %)	10 % ESTIMATED

10. Stability and reactivity

Stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Not available.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

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Acute toxicity		May be harmful if swallowed.
Product	Species	Test Results
KLEEN MCT103 (CAS Mixture)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg, (Calculated according to GHS additivity formula)
<i>Inhalation</i>		
LC50	Rat	> 5 mg/l, 4 Hours, (Calculated according to GHS additivity formula)
<i>Oral</i>		
LD50	Rat	4923 mg/kg, (Calculated according to GHS additivity formula)
Components	Species	Test Results
Hydroxyacetic acid (CAS 79-14-1)		
Acute		
<i>Inhalation</i>		
LC50	Rat	3.6 mg/L, 4 Hour
<i>Oral</i>		
LD50	Rat	2040 mg/kg
N-hydroxyethylenediamine triacetic acid trisodium salt (CAS 139-89-9)		
Acute		
<i>Inhalation</i>		
LC50	Rat	> 10.054 mg/l, 4 Hour
<i>Oral</i>		
LD50	Rat	1780 mg/kg
* Estimates for product may be based on additional component data not shown.		
Routes of exposure	Ingestion. Skin contact. Eye contact.	
Symptoms	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.	
Skin corrosion/irritation	Causes severe skin burns and eye damage.	
Serious eye damage/eye irritation	Causes serious eye damage.	
Respiratory or skin sensitization		
Respiratory sensitization	Not a respiratory sensitizer.	
Skin sensitizer	This product is not expected to cause skin sensitization.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	Not classified.	
Toxic to reproduction	This product is not expected to cause reproductive or developmental effects.	
Specific target organ toxicity following single exposure	Not available.	
Specific target organ toxicity following repeated exposure	Not available.	
Aspiration hazard	Not an aspiration hazard.	
Chronic effects	Prolonged exposure may cause chronic effects.	

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12. Ecological information

Ecotoxicological data

Product		Species	Test Results
KLEEN MCT103 (CAS Mixture)	0% Mortality	Fathead Minnow	2000 mg/L, Static Bioassay with 48-Hour Renewal, 96 hour, (pH adjusted)
Aquatic			
Crustacea	LC50	Daphnia magna	1890 mg/L, Static Renewal Bioassay, 48 hour, (pH adjusted)
	NOEL	Daphnia magna	1060 mg/L, Static Renewal Bioassay, 48 hour, (pH adjusted)

* Estimates for product may be based on additional component data not shown.

Ecotoxicity Not available.

Bioaccumulation

Bioaccumulative potential

Octanol/water partition coefficient log Kow

Hydroxyacetic acid -1.11

Mobility in soil No data available for this product.

Other hazardous effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

Environmental fate The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and degradability

No data is available on the degradability of this product.

- COD (mgO2/g) 335 (calculated data)
- BOD 5 (mgO2/g) 70 (calculated data)
- BOD 28 (mgO2/g) 105 (calculated data)
- Closed Bottle Test (% Degradation in 28 days) 23 (calculated data)
- Zahn-Wellens Test (% Degradation in 28 days) 27 (calculated data)
- TOC (mg C/g) 150 (calculated data)

13. Disposal considerations

Residual waste Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

Local disposal regulations Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

14. Transport information

CNDG

UN number UN3265
UN proper shipping name Corrosive liquid, acidic, organic, n.o.s. (HYDROXYACETIC ACID)
Transport hazard class(es)
Class 8
Subsidiary risk -
Packing group II

International regulations If detailed packaging information is needed, please contact your GE Water & Process Technologies representative or customer service

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IATA

UN number UN3265
UN proper shipping name Corrosive liquid, acidic, organic, n.o.s. (Hydroxyacetic acid)
Transport hazard class(es)
Class 8
Subsidiary risk -
Packing group II
Environmental hazards No.
ERG Code 153
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number UN3265
UN proper shipping name CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Hydroxyacetic acid)
Transport hazard class(es)
Class 8
Subsidiary risk -
Packing group II
Environmental hazards
Marine pollutant No.
EmS F-A, S-B
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

CNDG; IATA; IMDG



15. Regulatory information

Inventory of Existing Chemical Substances in China

Country(s) or region	Inventory name	On inventory (yes/no)*
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
 A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

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Applicable regulations

OELs. Occupational Exposure Limits for Hazardous Agents in the Workplace, Part 1, Chemical Hazardous Agents
 Law of the Peoples Republic of China on prevention of environmental pollution caused by solid waste
 Provisions on the Environmental Administration of New Chemical substances
 Rule of safety use the chemicals in workplace
 List of Dangerous Goods
 Classification and Labeling of Dangerous Chemical Substances Commonly Used
 Safety Administration Regulations of the Hazardous Chemicals
 National Catalogue of Hazardous Waste
 Dangerous Chemical Products This safety data sheet conforms to the following laws, regulations and standards:
 Regulations on the Control over Safety of Dangerous Chemicals
 Regulations on Labor Protection in Workplaces Where Toxic Products Are Used
 Measures for the Safe Use of Chemicals in Workplaces
 Safety Data Sheet for Chemical Products - Content and Order of Sections (GB/T 16483-2008)
 General Rules for Preparation of Precautionary Labels for Chemicals (GB15258-2009)
 Packing Symbol of Dangerous Goods(GB190-2009)
 Packing - Pictorial Marking for Handling of Goods (GB/T191-2009)

Occupational exposure limits for hazardous agents in the workplace (GBZ 2.1-2007)

Not listed.

National Catalogue of Hazardous Wastes

Hydroxyacetic acid (CAS 79-14-1)

Classification and code of dangerous goods (GB 6944-2012)

Regulated.

List of Dangerous Goods (GB 12268-2012)

Regulated.

The Principle of Classification of Transport Packaging Groups of Dangerous Goods (GB/T15098-2008)

Regulated.

General Specifications for Transport Packages of Dangerous Goods (GB 12463-2009)

Regulated.

Regulations on Road Transport of Dangerous Goods

Regulated.

Regulations on Rail Road Transport of Dangerous Goods

Regulated.

UN Recommendations on the Transport of Dangerous Goods (UN RTDG)

Regulated.

16. Other information

References

EPA: AQUIRE database
 NLM: Hazardous Substances Data Base
 US. IARC Monographs on Occupational Exposures to Chemical Agents

Safety data sheets of raw materials.

List of abbreviations

CAS: Chemical Abstract Service Registration Number
 NFPA: National Fire Protection Association
 ACGIH: American Conference of Governmental Industrial Hygienists
 TWA: Time Weighted Average
 STEL: Short Term Exposure Limit
 LD50: Lethal Dose, 50%
 LC50: Lethal Concentration, 50%
 EC50: Effect Concentration, 50%
 NOEL: No Observed Effect Level
 COD: Chemical Oxygen Demand
 BOD: Biochemical Oxygen Demand
 TOC: Total Organic Carbon
 CEN: European Committee for Standardisation

Further information

Correction in Section: 2,3,11,14

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Disclaimer

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Revision information

Exposure controls/personal protection: Engineering measures
GHS: Classification