



SAFETY DATA SHEET

KLEEN MCT103

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name or designation of the mixture KLEEN MCT103

Version number 8.3

Revision date 18/08/2022

Supersedes date 20/02/2020

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses Reverse Osmosis membrane cleaner

Uses advised against None known.

1.3. Details of the supplier of the safety data sheet

JV Process and Water Chemicals LLC

Street V. Kadirov 10, city Chirchik, Region Tashkent

Republic of Uzbekistan, 111702

tel : +99871 209 10 40

e-mail : info@pwch.uz

www.pwch.uz

1.4. Emergency telephone number

Multilingual emergency number (24/7)

Street V. Kadirov 10, city Chirchik,

Region Tashkent

Republic of Uzbekistan, 111702

+99871 209 10 40

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 as amended

Health hazards

Skin corrosion/irritation Category 1B

H314 - Causes severe skin burns and eye damage.

Serious eye damage/eye irritation Category 1

H318 - Causes serious eye damage.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains: Hydroxyacetic acid, N-hydroxyethylenediamine triacetic acid trisodium salt

Hazard pictograms



Signal word Danger

Hazard statements

H314 Causes severe skin burns and eye damage.



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Precautionary statements

Prevention

P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response

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

Storage

Not available.

Disposal

Not available.

Supplemental label information

None.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

Mixtures

Chemical description

Aqueous solution of an organic acid, inorganic acid and chelant

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Hydroxyacetic acid	10 - < 20	79-14-1 201-180-5	01-2119485579-17	-	
Classification:	Skin Corr. 1B;H314, Acute Tox. 4;H332				
N-hydroxyethylenediamine triacetic acid trisodium salt	10 - < 20	139-89-9 205-381-9	01-2119972845-22	-	
Classification:	Acute Tox. 4;H302, Skin Corr. 1B;H314				
Trisodium nitrilotriacetate	0,1 - < 1	5064-31-3 225-768-6	01-2119519239-36	607-620-00-6	
Classification:	Acute Tox. 4;H302, Eye Irrit. 2;H319, Carc. 2;H351				
Formic acid	<= 0,3	64-18-6 200-579-1	01-2119491174-37	607-001-00-0	#
Classification:	Flam. Liq. 3;H226, Acute Tox. 4;H302, Skin Corr. 1A;H314, Acute Tox. 3;H331				

The classification of the above substance(s) is given, including the hazard class, category code and hazard statements which are assigned in accordance with their physicochemical, health and environmental hazards. Please refer to section 16 where the full text of each relevant H-statement is listed.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention immediately.

Skin contact Take off immediately all contaminated clothing. Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

Ingestion Rinse mouth. Do not give anything to eat or drink. Do not induce vomiting. Call a physician or poison control centre immediately.



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4.2. Most important symptoms and effects, both acute and delayed Corrosive effects.

4.3. Indication of any immediate medical attention and special treatment needed Not available.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Dry chemical, CO₂, water spray or regular foam.

Unsuitable extinguishing media None.

5.2. Special hazards arising from the substance or mixture Oxides of carbon and sulphur evolved in fire.

5.3. Advice for firefighters

Special protective equipment for firefighters Self contained breathing apparatus. (CEN : EN 137)
 Protective clothing (CEN : EN 469)
 Protective gloves (CEN : EN 659)
 Helmet (CEN : EN 443)

Special fire fighting procedures Use standard firefighting procedures and consider the hazards of other involved materials. Prevent spillage and fire-fighting water from entering in public sewers or the immediate environment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Wear protective clothing, gloves and safety goggles.

For emergency responders Use personal protection recommended in Section 8 of the SDS.

6.2. Environmental precautions Prevent from entering sewers or the immediate environment. Accidental release of large quantities into the aquatic environment may harm aquatic organisms.

6.3. Methods and material for containment and cleaning up Absorb onto inert material and dispose of according to Hazardous Waste Regulations. Remove small spills with plenty of water.

6.4. Reference to other sections Please refer also to section no. 8 'Exposure controls' for further information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling Acidic.
 Do not mix with alkaline material.

7.2. Conditions for safe storage, including any incompatibilities Store containers closed when not in use.
 Do not freeze.
 If frozen, thaw completely and mix thoroughly prior to use.

7.3. Specific end use(s) Only for professional and industrial users

Shelf life 720 Days

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Italy. Occupational Exposure Limits

Components	Type	Value
Formic acid (CAS 64-18-6)	TWA	9 mg/m ³ 5 ppm

EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU

Components	Type	Value
Formic acid (CAS 64-18-6)	TWA	9 mg/m ³ 5 ppm



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

Recommended monitoring procedures Not available.

Derived no effect levels (DNELs)

Workers

Components	Value	Assessment factor	Notes
Formic acid (CAS 64-18-6)			
Long-term, Local, Inhalation	9,5 mg/m ³		
Short-term, Local, Inhalation	19 mg/m ³		
Hydroxyacetic acid (CAS 79-14-1)			
Long-term, Local, Inhalation	1,53 mg/m ³	75	
Long-term, Systemic, Dermal	57,69 mg/kg	100	
Long-term, Systemic, Inhalation	10,56 mg/m ³	25	
Short-term, Local, Inhalation	9,2 mg/m ³	12	
Short-term, Systemic, Inhalation	9,2 mg/m ³	25	
N-hydroxyethylenediamine triacetic acid trisodium salt (CAS 139-89-9)			
Long-term, Local, Inhalation	10 mg/m ³		
Long-term, Systemic, Inhalation	88 mg/m ³	5	
Trisodium nitrilotriacetate (CAS 5064-31-3)			
Long-term, Systemic, Inhalation	3,5 mg/m ³	18	
Short-term, Systemic, Inhalation	5,25 mg/m ³	12	

Predicted no effect concentrations (PNECs)

Components	Value	Assessment factor	Notes
Formic acid (CAS 64-18-6)			
Freshwater	2 mg/l	50	
Intermittent releases	1 mg/l	100	
Marine water	0,2 mg/l	500	
Sediment (freshwater)	13,4 mg/kg		
Sediment (marine water)	1,34 mg/kg		
Soil	1,5 mg/kg		
STP	7,2 mg/l	10	
Hydroxyacetic acid (CAS 79-14-1)			
Freshwater	0,0312 mg/l	1000	
Intermittent releases	0,312 mg/l	100	
Marine water	0,0031 mg/l	10000	
Secondary poisoning	16,66 mg/kg	90	
Sediment (freshwater)	0,115 mg/kg	1	
Sediment (marine water)	0,0115 mg/kg	1	
Soil	0,007 mg/kg	1	
STP	7 mg/l	10	
N-hydroxyethylenediamine triacetic acid trisodium salt (CAS 139-89-9)			
Freshwater	2500 µg/l	10	
Intermittent releases	1920 µg/l	100	
Marine water	250 µg/l	100	
Sediment (freshwater)	107 µg/kg		
Sediment (marine water)	10,7 µg/kg		
Soil	840 µg/kg	100	
STP	50 mg/l	10	
Trisodium nitrilotriacetate (CAS 5064-31-3)			
Freshwater	0,93 mg/l	10	
Intermittent releases	0,915 mg/l	100	
Marine water	0,093 mg/l	100	
Secondary poisoning	0,2 mg/kg	300	
Sediment (freshwater)	3,64 mg/kg		
Sediment (marine water)	0,364 mg/kg		
Soil	0,182 mg/kg		



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STP 540 mg/l 1

8.2. Exposure controls

Appropriate engineering controls Ensure good ventilation.
 Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Splash proof chemical goggles.
 Face shield.
 CEN : EN 166

Skin protection

- Hand protection Gauntlet type neoprene gloves (Protection against unintentional short-term contact)
 Gauntlet type nitrile gloves (Protection against unintentional short-term contact)
 Gauntlet type butyl gloves (Protection against unintentional short-term contact)
 Coating thickness: 0.6 mm
 Penetration time: > 480 min
 CEN : EN 374-1/2/3/4; EN 420

- Other Chemical resistant apron.
 CEN : EN ISO 13688; EN ISO 6530; EN ISO 6529; EN 14605

Respiratory protection In case of insufficient ventilation, use a breathing mask with filter type: P2
 CEN : EN 140; EN 143; EN 149

Thermal hazards Not available.

Environmental exposure controls Prevent from entering in public sewers or the immediate environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Colour Colourless to amber

Physical state Liquid

Odour Slight acetic acid odour

Odour threshold Not available.

pH (concentrated product) 3,4 Neat

pH in aqueous solution 3,3 (5% Solution)

Melting point/freezing point -21 °C

Initial boiling point and boiling range 99 °C

Flash point Not applicable.

Evaporation rate Slower than Ether

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Vapour pressure 18 mmHg

Vapour pressure temp. 21 °C

Vapour density > 1

Relative density 1,35

Relative density temperature 21 °C

Solubility

Solubility (water) 100 %

Partition coefficient (n-octanol/water) Not available.



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Auto-ignition temperature	Not applicable.
Decomposition temperature	Not available.
Viscosity	50 mPa.s
Viscosity temperature	21 °C
Explosive properties	Not available.
Oxidising properties	Not available.
9.2. Other information	
Pour point	-18 °C
Shelf life	720 Days
VOC	10 % Estimated

SECTION 10: Stability and reactivity

10.1. Reactivity	Not available.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	Not applicable.
10.4. Conditions to avoid	Protect from freezing.
10.5. Incompatible materials	Avoid contact with strong oxidisers.
10.6. Hazardous decomposition products	Oxides of carbon and sulphur evolved in fire.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Product	Test Results
KLEEN MCT103 (Mixture)	Acute Dermal LD50 Rabbit: > 5000 mg/kg (Calculated according to GHS additivity formula) Acute Inhalation LC50 Rat: > 5 mg/l 4 Hours (Calculated according to GHS additivity formula) Acute Oral LD50 Rat: 4923 mg/kg (Calculated according to GHS additivity formula)
Components	Test Results
N-hydroxyethylenediamine triacetic acid trisodium salt (139-89-9)	Acute Inhalation LC50 Rat: > 10,054 mg/l 4 hour Acute Oral LD50 Rat: 1780 mg/kg
Trisodium nitrilotriacetate (5064-31-3)	Acute Dermal LD50 Rabbit: > 2000 mg/kg Acute Inhalation LC50 Rat: > 5 mg/l 4 Hours Acute Oral LD50 Rat: 1100 mg/kg
Formic acid (64-18-6)	Acute Inhalation LC50 Rat: 15 mg/l 4 hour Acute Oral LD50 Rat: 1100 mg/kg
Hydroxyacetic acid (79-14-1)	Acute Inhalation LC50 Rat: 3,6 mg/l 4 hour Acute Oral LD50 Rat: 2040 mg/kg
Acute toxicity	Based on available data, the classification criteria are not met.
Skin corrosion/irritation	Causes severe skin burns and eye damage.
Serious eye damage/irritation	Causes serious eye damage.
Respiratory or skin sensitisation	Based on available data, the classification criteria are not met.
Specific target organ toxicity - repeated exposure	Based on available data, the classification criteria are not met.



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Specific target organ toxicity - single exposure Based on available data, the classification criteria are not met.

Carcinogenicity Based on available data, the classification criteria are not met.

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Reproductive toxicity Based on available data, the classification criteria are not met.

Information on likely routes of exposure

Ingestion Causes digestive tract burns.
 Ingestion of large amounts may produce gastrointestinal disturbances including irritation, nausea, and diarrhoea.

Inhalation May cause irritation to the respiratory system.

Skin contact Causes severe skin burns.

Eye contact Causes serious eye damage.

Symptoms Not available.

Aspiration hazard Based on available data, the classification criteria are not met.

Mixture versus substance information None known.

Other information Not available.

SECTION 12: Ecological information

12.1. Toxicity

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

12.2. Persistence and degradability

- 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)

12.3. Bioaccumulative potential Not available.

Partition coefficient n-octanol/water (log Kow)

Formic acid	-0,54
Hydroxyacetic acid	-1,11
Trisodium nitrilotriacetate	-10,1

Bioconcentration factor (BCF)

Trisodium nitrilotriacetate	3
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12.4. Mobility in soil Not available.

12.5. Results of PBT and vPvB assessment Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects Not available.



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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Contaminated packaging	According to Hazardous Waste Regulations. EWC (European Waste Code) recommendation : 15 01 10 15 Waste packaging; absorbents, wiping cloths, filter materials and protective clothing not otherwise specified. 15 01 Packaging (including separately collected municipal packaging waste). 15 01 10 Packaging containing residues of or contaminated by dangerous substances. Depending on the origin and state of the waste, other EWC numbers may be applicable too.
Disposal methods/information	According to Hazardous Waste Regulations. EWC (European Waste Code) recommendation : 16 03 05 16 Wastes not otherwise specified in the list. 16 03 Off-specification batches and unused products. 16 03 05 Organic wastes containing dangerous substances. Depending on the origin and state of the waste, other EWC numbers may be applicable too.

SECTION 14: Transport information

ADR

14.1. UN number	UN3265
14.2. UN proper shipping name	Corrosive liquid, acidic, organic, n.o.s. (Hydroxyacetic acid, Mixture)
14.3. Transport hazard class(es)	
Class	8
Subsidiary risk	-
Tunnel restriction code	(E)
14.4. Packing group	II
14.5. Environmental hazards	No.
14.6. Special precautions for user	Not available.

RID

14.1. UN number	UN3265
14.2. UN proper shipping name	Corrosive liquid, acidic, organic, n.o.s. (Hydroxyacetic acid, Mixture)
14.3. Transport hazard class(es)	
Class	8
Subsidiary risk	-
14.4. Packing group	II
14.5. Environmental hazards	No.
14.6. Special precautions for user	Not available.

ADN

14.1. UN number	UN3265
14.2. UN proper shipping name	Corrosive liquid, acidic, organic, n.o.s. (Hydroxyacetic acid, Mixture)
14.3. Transport hazard class(es)	
Class	8
Subsidiary risk	-
14.4. Packing group	II
14.5. Environmental hazards	No.
14.6. Special precautions for user	Not available.

IATA

14.1. UN number	UN3265
14.2. UN proper shipping name	Corrosive liquid, acidic, organic, n.o.s. (Hydroxyacetic acid, Mixture)



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14.3. Transport hazard class(es)

Class 8

Subsidiary risk -

14.4. Packing group II

14.5. Environmental hazards No.

ERG Code Not available.

14.6. Special precautions Not available.

for user

IMDG

14.1. UN number UN3265

14.2. UN proper shipping name Corrosive liquid, acidic, organic, n.o.s. (Hydroxyacetic acid, Mixture)

14.3. Transport hazard class(es)

Class 8

Subsidiary risk -

14.4. Packing group II

14.5. Environmental hazards

Marine pollutant No.

EmS F-A, S-B

14.6. Special precautions Not available.

for user

14.7. Transport in bulk This substance/mixture is not intended to be transported in bulk.

according to Annex II of MARPOL and the IBC Code

ADN; ADR; IATA; IMDG; RID



SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Not listed.



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Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Not listed.

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.

Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

Not listed.

National regulations

Not available.

15.2. Chemical safety assessment

Not available.

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No

*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).

SECTION 16: Other information

List of abbreviations

COD: Chemical Oxygen Demand
EC-No: European Commission Number
IATA: International Air Transport Association
IMDG Code: International Maritime Dangerous Goods Code.
CAS: Chemical Abstract Service.
CLP: Classification, Labeling and Packaging REGULATION (EC) No 1272/2008 on classification, labeling and packaging of substances and mixtures.
CEN: European Committee for Standardization (Comité Européen de Normalisation).
TWA: Time Weighted Average.
STEL: Short-term Exposure Limit.
LD50: Lethal Dose 50%.
LC50: Lethal Concentration 50%.
EC50: Effective Concentration 50%.
NOEL: No observed effect level.
BOD: Biochemical oxygen demand.
TOC: Total Organic Carbon.
ADR: European agreement concerning the international carriage of dangerous goods by road (Accord européen relatif transport des marchandises dangereuses par route).
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures).
RID: Regulations concerning the international carriage of dangerous goods by rail (Règlement International concernant le transport de marchandises dangereuses par chemin de fer).
Safety data sheets of raw materials.

References

Information on evaluation method leading to the classification of mixture

The physical, health and environmental hazards of this mixture are assessed by applying the classification criteria for each hazard class or differentiation in Parts 2 to 5 of Annex I to Regulation (EC) No 1272/2008 (CLP).

Full text of any H-statements not written out in full under Sections 2 to 15

H226 Flammable liquid and vapour.
H302 Harmful if swallowed.



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	H314 Causes severe skin burns and eye damage. H319 Causes serious eye irritation. H331 Toxic if inhaled. H332 Harmful if inhaled. H351 Suspected of causing cancer.
Revision information	This document has undergone significant changes and should be reviewed in its entirety.
Training information	Provide training on safe handling while considering the type of application and exposure scenarios.
Constituents (Regulation (EC) No 648/2004)	Less than 5 % of anionic surfactants
Based on EC Directive / Regulations	(EC) No 1907/2006 (REACH) (EC) No 1272/2008 (EU) No 1357/2014 (EU) 2015/830
	This information is based on our current knowledge and is intended to describe the product for the purpose of safety requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
Further information	Correction in Section: 2,3,8,11