



SAFETY DATA SHEET

KLEEN MCT511E

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

1.1. Product identifier

Trade name or designation of the mixture KLEEN MCT511E

Date of first issue 17/08/2007

Version number 4.1

Revision date 20/10/2021

Supersedes date 08/06/2020

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

Identified uses 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.
Reproductive toxicity (fertility, the unborn child)	Category 2	H361fd - Suspected of damaging fertility. Suspected of damaging the unborn child.
Specific target organ toxicity - single exposure	Category 3 respiratory tract irritation	H335 - May cause respiratory irritation.

2.2. Label elements

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

Contains: 2-hydroxyethylammonium chloride, Diethanolamine, Ethanolamine, N-hydroxyethylenediamine triacetic acid trisodium salt



SAFETY DATA SHEET

KLEEN MCT511E

Hazard pictograms



Signal word

Danger

Hazard statements

H314 Causes severe skin burns and eye damage.
 H335 May cause respiratory irritation.
 H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.

Precautionary statements

Prevention

P260 Do not breathe mist or vapour.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response

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 chelant, phosphonate and amines

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
N-hydroxyethylenediamine triacetic acid trisodium salt	20 - < 30	139-89-9 205-381-9	01-2119972845-22	-	
Classification:	Acute Tox. 4;H302, Eye Dam. 1;H318				
Ethanolamine	10 - < 20	141-43-5 205-483-3	01-2119486455-28	603-030-00-8	#
Classification:	Acute Tox. 4;H302, Acute Tox. 4;H312, Skin Corr. 1B;H314, Acute Tox. 4;H332, STOT SE 3;H335, Aquatic Chronic 3;H412				
Diethanolamine	3 - < 5	111-42-2 203-868-0	01-2119488930-28	603-071-00-1	
Classification:	Acute Tox. 4;H302, Skin Irrit. 2;H315, Eye Dam. 1;H318, Repr. 2;H361d, Repr. 2;H361f, STOT RE 2;H373				
2-hydroxyethylammonium chloride	1 - < 3	2002-24-6 217-900-6	-	-	
Classification:	Skin Irrit. 2;H315, Eye Irrit. 2;H319, STOT SE 3;H335				
Trisodium nitrilotriacetate	<= 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				

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.



SAFETY DATA SHEET

KLEEN MCT511E

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.

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, CO ₂ , water spray or regular foam.
Unsuitable extinguishing media	Not available.

5.2. Special hazards arising from the substance or mixture

Oxides of carbon, nitrogen and phosphorus 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.

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

Handle in accordance with good industrial hygiene and safety procedures.
Avoid contact with skin and eyes.

7.2. Conditions for safe storage, including any incompatibilities

Store containers closed when not in use.
Store in dry, cool, well ventilated area.
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



SAFETY DATA SHEET

KLEEN MCT511E

Shelf life 270 days

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Italy. Occupational Exposure Limits

Components	Type	Value	Form
Diethanolamine (CAS 111-42-2)	TWA	1 mg/m ³	Inhalable fraction and vapor.
Ethanolamine (CAS 141-43-5)	STEL	7,6 mg/m ³	
	TWA	3 ppm 2,5 mg/m ³ 1 ppm	
Triethanolamine (CAS 102-71-6)	TWA	5 mg/m ³	

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

Components	Type	Value
Ethanolamine (CAS 141-43-5)	STEL	7,6 mg/m ³
	TWA	3 ppm 2,5 mg/m ³ 1 ppm

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
Diethanolamine (CAS 111-42-2)			
Long-term, Local, Inhalation	0,5 mg/m ³	1	
Long-term, Systemic, Dermal	0,13 mg/kg	60	
Long-term, Systemic, Inhalation	0,75 mg/m ³		
Ethanolamine (CAS 141-43-5)			
Long-term, Local, Inhalation	3,3 mg/m ³	3	
Long-term, Systemic, Dermal	1 mg/kg	120	
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
Diethanolamine (CAS 111-42-2)			
Freshwater	0,02 mg/l	50	
Intermittent releases	0,095 mg/l	100	
Marine water	0,002 mg/l	500	
Secondary poisoning	1,04 mg/kg	90	Oral
Sediment (freshwater)	0,092 mg/kg		
Sediment (marine water)	0,009 mg/kg		
Soil	1,63 mg/kg		
STP	100 mg/l	10	
Ethanolamine (CAS 141-43-5)			
Freshwater	0,085 mg/l	10	



SAFETY DATA SHEET

KLEEN MCT511E

Intermittent releases	0,025 mg/l	100
Marine water	0,0085 mg/l	100
Sediment (freshwater)	0,425 mg/kg	
Sediment (marine water)	0,0425 mg/kg	
Soil	0,035 mg/kg	
STP	100 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	
STP	540 mg/l	1

Exposure guidelines

Italy OELs: Skin designation

Diethanolamine (CAS 111-42-2)

Danger of cutaneous absorption

Ethanolamine (CAS 141-43-5)

Danger of cutaneous absorption

8.2. Exposure controls

Appropriate engineering controls

Adequate ventilation to maintain air contaminants below exposure limits.
 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 rubber gloves (Protection against unintentional short-term contact)
 Coating thickness: 0.5 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: A2-P2
 CEN : EN 140; EN 14387

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 light yellow

Physical state Liquid

Odour Slight

Odour threshold Not available.



SAFETY DATA SHEET

KLEEN MCT511E

pH (concentrated product)	Not available.
pH in aqueous solution	10,4 (5% SOL.)
Melting point/freezing point	-12 °C
Initial boiling point and boiling range	104 °C
Flash point	96 °C P-M(CC)
Evaporation rate	< 1 (Ether = 1)
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapour pressure	18 mm Hg
Vapour pressure temp.	21 °C
Vapour density	5 (Air = 1)
Relative density	1,21
Relative density temperature	21 °C
Solubility	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not available.
Viscosity	95 cps
Viscosity temperature	21 °C
Explosive properties	Not available.
Oxidising properties	Not available.
9.2. Other information	
Pour point	-9 °C
Shelf life	270 days
VOC	36 % (Estimated)

SECTION 10: Stability and reactivity

10.1. Reactivity	Strong acids.
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. Avoid contact with strong acids.
10.6. Hazardous decomposition products	Oxides of carbon, nitrogen and phosphorus evolved in fire.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Product	Test Results
KLEEN MCT511E (Mixture)	Acute Dermal LD50 Rabbit: > 5000 mg/kg (Calculated according to GHS additivity formula)



SAFETY DATA SHEET

KLEEN MCT511E

Product	Test Results
	Acute Inhalation LC50 Rat: > 5 mg/l 4 hour (Calculated according to GHS additivity formula) Acute Oral LD50 Rat: > 5000 mg/kg (Calculated according to GHS additivity formula)
Components	Test Results
Diethanolamine (111-42-2)	Acute Dermal LD50 Rabbit: 4000 mg/kg Acute Oral LD50 Rat: 1600 mg/kg
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
Ethanolamine (141-43-5)	Acute Dermal LD50 Rabbit: 1025 mg/kg Acute Inhalation LC50 Rat: > 1,5 mg/l 4 hour Acute Oral LD50 Rat: 1720 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

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.
Specific target organ toxicity - single exposure	May cause irritation to the respiratory system.
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	Suspected of damaging fertility or the unborn child.

Information on likely routes of exposure

Ingestion	Causes digestive tract burns.
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	No data available
12.2. Persistence and degradability	Testing has shown product to be inherently biodegradable.
- Closed Bottle Test (% Degradation in 28 days)	32
12.3. Bioaccumulative potential	Not available.



SAFETY DATA SHEET

KLEEN MCT511E

Partition coefficient

n-octanol/water (log Kow)

2-hydroxyethylammonium chloride	-4,8
Diethanolamine	-1,43
Ethanolamine	-1,31
Trisodium nitrilotriacetate	-10,1

Bioconcentration factor (BCF)

2-hydroxyethylammonium chloride	3
Diethanolamine	3
Ethanolamine	3
Trisodium nitrilotriacetate	3

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.

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	UN3267
14.2. UN proper shipping name	Corrosive liquid, basic, organic, n.o.s. (Ethanolamine, N-hydroxyethylenediamine triacetic acid trisodium salt, 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	UN3267
14.2. UN proper shipping name	Corrosive liquid, basic, organic, n.o.s. (Ethanolamine, N-hydroxyethylenediamine triacetic acid trisodium salt, 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.



SAFETY DATA SHEET

KLEEN MCT511E

ADN

14.1. UN number	UN3267
14.2. UN proper shipping name	Corrosive liquid, basic, organic, n.o.s. (Ethanolamine, N-hydroxyethylenediamine triacetic acid trisodium salt, 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	UN3267
14.2. UN proper shipping name	Corrosive liquid, basic, organic, n.o.s. (Ethanolamine, N-hydroxyethylenediamine triacetic acid trisodium salt, Mixture)
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 for user	Not available.

IMDG

14.1. UN number	UN3267
14.2. UN proper shipping name	Corrosive liquid, basic, organic, n.o.s. (Ethanolamine, N-hydroxyethylenediamine triacetic acid trisodium salt, 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 for user	Not available.
14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code	This substance/mixture is not intended to be transported in bulk.

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



SAFETY DATA SHEET

KLEEN MCT511E

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.

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

EC-No: European Commission Number
COD: Chemical Oxygen Demand
IATA: International Air Transport Association
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.



SAFETY DATA SHEET

KLEEN MCT511E

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).
IMDG Code: International Maritime Dangerous Goods Code.
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

H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.
H361d Suspected of damaging the unborn child.
H361f Suspected of damaging fertility.
H373 May cause damage to organs through prolonged or repeated exposure by ingestion.
H412 Harmful to aquatic life with long lasting effects.

Revision information

Physical & Chemical Properties: Multiple Properties
SECTION 16: Other information: Further information

Training information

Provide training on safe handling while considering the type of application and exposure scenarios.

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: 2,3,12,16