SAFETY DATA SHEET
OPTISPERSE CL2000

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

1.1. Product identifier

Trade name or designation of the mixture	OPTISPERSE CL2000
Version number	7.3
Revision date	28/08/2022
Supersedes date	29/10/2020

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

Identified uses	Water based internal boiler treatment chemical.
Uses advised against	None known.

1.3. Details of the supplier of the safety data sheet

JV Process and Water Chemicals LLC
Address: Street V. Kadirov 10, city Chirchik,
Region Tashkent Republic of Uzbekistan, 111702
Tel: +99871 209 10 40
Email address: 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
Tel: +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

Physical hazards		
Corrosive to metals	Category 1	H290 - May be corrosive to metals.
Health hazards		
Acute toxicity, inhalation	Category 4	H332 - Harmful if inhaled.
Serious eye damage/eye irritation	Category 2	H319 - Causes serious eye irritation.
Specific target organ toxicity - repeated exposure	Category 2 (Respiratory organs)	H373 - May cause damage to organs (Respiratory organs) through prolonged or repeated exposure.

2.2. Label elements

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

Contains: Ethylenediamine tetraacetic acid, tetrasodium salt (EDTA,4Na)

SAFETY DATA SHEET
OPTISPERSE CL2000

Hazard pictograms

Signal word Warning

Hazard statements

H290	May be corrosive to metals.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H373	May cause damage to organs (Respiratory organs) through prolonged or repeated exposure.

Precautionary statements

Prevention

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

Response

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.
P312	Call a POISON CENTRE/doctor if you feel unwell.
P337 + P313	If eye irritation persists: Get medical advice/attention.

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 Chelant in aqueous alkaline solution

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Ethylenediamine tetraacetic acid, tetrasodium salt (EDTA.4Na)	30 - < 60	64-02-8 200-573-9	01-2119486762-27	607-428-00-2	
Classification:	Acute Tox. 4;H302, Eye Dam. 1;H318, Acute Tox. 4;H332, STOT RE 2;H373				
Ethylenediamine triacetic acid, trisodium salt	1 - < 3	19019-43-3 -	-	-	
Classification:	Eye Irrit. 2;H319				
Trisodium nitrilotriacetate	1 - 3	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				
Sodium hydroxide	0,5 - < 2	1310-73-2 215-185-5	01-2119457892-27	011-002-00-6	
Classification:	Met. Corr. 1;H290, Skin Corr. 1A;H314				

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.
Call a physician if symptoms develop or persist.

SAFETY DATA SHEET
OPTISPERSE CL2000

Skin contact	Take off immediately all contaminated clothing. Wash off immediately with plenty of water.
Eye contact	Rinse immediately with plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.
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	Irritant 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	Not available.
5.2. Special hazards arising from the substance or mixture	Ammonia, oxides of carbon and nitrogen 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	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	Alkaline. Do not mix with acidic material.
7.2. Conditions for safe storage, including any incompatibilities	Store containers closed when not in 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

SAFETY DATA SHEET
OPTISPERSE CL2000

Occupational exposure limits

Belgium. Exposure Limit Values.

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	TWA	2 mg/m3

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
Ethylenediamine tetraacetic acid, tetrasodium salt (EDTA.4Na) (CAS 64-02-8)			
Long-term, Local, Inhalation	1,5 mg/m3		
Short-term, Local, Inhalation	3 mg/m3	9	
Sodium hydroxide (CAS 1310-73-2)			
Long-term, Local, Inhalation	1 mg/m3	1	
Short-term, Local, Dermal	2 mg/kg/day		
Short-term, Local, Inhalation	2 mg/m3		
Trisodium nitrilotriacetate (CAS 5064-31-3)			
Long-term, Systemic, Inhalation	3,5 mg/m3	18	
Short-term, Systemic, Inhalation	5,25 mg/m3	12	

Predicted no effect concentrations (PNECs)

Components	Value	Assessment factor	Notes
Ethylenediamine tetraacetic acid, tetrasodium salt (EDTA.4Na) (CAS 64-02-8)			
Freshwater	2,2 mg/l	10	
Intermittent releases	1,2 mg/l	100	
Marine water	0,22 mg/l	100	
Soil	0,72 mg/kg	100	
STP	43 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	

8.2. Exposure controls

Appropriate engineering controls Adequate ventilation to maintain air contaminants below exposure limits.

Individual protection measures, such as personal protective equipment

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

Skin protection

- Hand protection Rubber gloves (Protection against unintentional short-term contact)
Neoprene 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 Protective clothing.
CEN : EN ISO 13688; 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.

SAFETY DATA SHEET
OPTISPERSE CL2000

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 yellow
Physical state	Liquid
Odour	Mild
Odour threshold	Not available.
pH (concentrated product)	13,5
pH in aqueous solution	12 (5% SOL.)
Melting point/freezing point	< -29 °C
Initial boiling point and boiling range	Not available.
Flash point	> 100 °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	< 1 (Air = 1)
Relative density	1,3
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	34 cps
Viscosity temperature	21 °C
Explosive properties	Not available.
Oxidising properties	Not available.

9.2. Other information

Pour point	< -29 °C
Shelf life	720 days
VOC	0 % (ASTM 3960-93)

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	No special requirement.

SAFETY DATA SHEET
OPTISPERSE CL2000

10.5. Incompatible materials	Avoid contact with strong oxidisers. Avoid contact with aluminium or zinc alloys.
10.6. Hazardous decomposition products	Ammonia, oxides of carbon and nitrogen evolved in fire.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Product	Test Results
OPTISPERSE CL2000 (Mixture)	Acute Dermal LD50 Rabbit: > 5000 mg/kg (Calculated according to GHS additivity formula)
	Acute Oral LD50 Rat: 3593 mg/kg (Calculated according to GHS additivity formula)
Components	**Test Results**
Sodium hydroxide (1310-73-2)	Acute Dermal LD50 Rabbit: 1350 mg/kg
	Acute Oral LD50 Rabbit: > 500 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
Ethylenediamine tetraacetic acid, tetrasodium salt (EDTA.4Na) (64-02-8)	Acute Oral LD50 Rat: 1658 mg/kg

Acute toxicity	Harmful if inhaled.
Skin corrosion/irritation	Not classified. (OECD 439)
Serious eye damage/irritation	Causes serious eye irritation. (OECD 405)
Respiratory or skin sensitisation	Based on available data, the classification criteria are not met.
Specific target organ toxicity - repeated exposure	May cause damage to organs (Respiratory system) through prolonged or repeated exposure by inhalation.
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	Ingestion of large amounts may produce gastrointestinal disturbances including irritation, nausea, and diarrhoea.
Inhalation	May cause irritation to the respiratory system.
Skin contact	May be irritating to the skin.
Eye contact	Causes serious eye irritation. (OECD 405)
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

SAFETY DATA SHEET
OPTISPERSE CL2000

Product		Species	Test Results
OPTISPERSE CL2000 (CAS Mixture)			
Aquatic			
Crustacea	0% Mortality	Mysid Shrimp	5000 mg/l, Static Renewal Bioassay, 48 hour
	20% Mortality	Ceriodaphnia	130 mg/l, Static Acute Bioassay, 48 hour, (pH adjusted)
	LC50	Daphnia magna	705 mg/l, Static Renewal Bioassay, 48 hour, (pH adjusted)
	NOEL	Daphnia magna	500 mg/l, Static Renewal Bioassay, 48 hour, (pH adjusted)
Fish	0% Mortality	Sheepshead minnow	5000 mg/l, Static Renewal Bioassay, 96 hour
	LC50	Bluegill sunfish	1030 mg/l, Static Acute Bioassay, 96 hour
		Fathead minnow	1045 mg/l, Static Renewal Bioassay, 96 hour, (pH adjusted)
		Rainbow trout	465 mg/l, Static Acute Bioassay, 96 hour, (pH adjusted)
	NOEL	Fathead minnow	845 mg/l, Static Renewal Bioassay, 96 hour, (pH adjusted)
		Rainbow trout	360 mg/l, Static Acute Bioassay, 96 hour, (pH adjusted)

12.2. Persistence and degradability

Testing has shown product not to be readily biodegradable.

- COD (mgO2/g)	310
- BOD 5 (mgO2/g)	15
- BOD 28 (mgO2/g)	31
- Closed Bottle Test (% Degradation in 28 days)	10
- Zahn-Wellens Test (% Degradation in 28 days)	3
- TOC (mg C/g)	130

12.3. Bioaccumulative potential Not available.

Partition coefficient n-octanol/water (log Kow)

Ethylenediamine tetraacetic acid, tetrasodium salt (EDTA.4Na)	-3,86
Trisodium nitrilotriacetate	-10,1

Bioconcentration factor (BCF)

Ethylenediamine tetraacetic acid, tetrasodium salt (EDTA.4Na)	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

SAFETY DATA SHEET
OPTISPERSE CL2000

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. (Ethylenediamine tetraacetic acid, tetrasodium salt (EDTA.4Na, Mixture)
14.3. Transport hazard class(es)	
Class	8
Subsidiary risk	-
Tunnel restriction code	(E)
14.4. Packing group	III
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. (Ethylenediamine tetraacetic acid, tetrasodium salt (EDTA.4Na, Mixture)
14.3. Transport hazard class(es)	
Class	8
Subsidiary risk	-
14.4. Packing group	III
14.5. Environmental hazards	No.
14.6. Special precautions for user	Not available.

ADN

14.1. UN number	UN3267
14.2. UN proper shipping name	Corrosive liquid, basic, organic, n.o.s. (Ethylenediamine tetraacetic acid, tetrasodium salt (EDTA.4Na, Mixture)
14.3. Transport hazard class(es)	
Class	8
Subsidiary risk	-
14.4. Packing group	III
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. (Ethylenediamine tetraacetic acid, tetrasodium salt (EDTA.4Na, Mixture)
14.3. Transport hazard class(es)	
Class	8
Subsidiary risk	-
14.4. Packing group	III

SAFETY DATA SHEET
OPTISPERSE CL2000

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. (Ethylenediamine tetraacetic acid, tetrasodium salt (EDTA.4Na, Mixture)
14.3. Transport hazard class(es)	
Class	8
Subsidiary risk	-
14.4. Packing group	III
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

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.

SAFETY DATA SHEET
OPTISPERSE CL2000

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
IATA: International Air Transport Association
EC-No: European Commission Number
VME: Valeur moyenne d'exposition (Time weighted average)
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 merchandises 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).

References Safety data sheets of raw materials.

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

H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.

SAFETY DATA SHEET
OPTISPERSE CL2000

	H332 Harmful if inhaled. H351 Suspected of causing cancer. H373 May cause damage to organs through prolonged or repeated exposure by inhalation.
Revision information	SECTION 2: Hazards identification: Supplemental label information SECTION 3: Composition/information on ingredients: Composition comments Physical & Chemical Properties: Multiple Properties SECTION 11: Toxicological information: Skin corrosion/irritation SECTION 11: Toxicological information: Serious eye damage/irritation SECTION 15: Regulatory information: Restrictions on use SECTION 16: Other information: Further information GHS: Classification
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) 2015/830 (EU) No 1357/2014
Further information	Correction in Section: 2,3,11