TAYSEER INTERNATIONAL CHEMICALS CO.

Rule of TSC in Sustainability of Water Resources

Conducted by: Associate prof. Fathy Mohamed Mohamed
Consultant of TSC

Company Identification:

Tayseer International Chemicals

P.O. Box: Head Office: 2, Ali Amin, Nasr City, Cairo, Egypt,

Factory: Plot 165, 800 acres area, behind the army hangars - Al-Roubiki Badr.

Phone #: +20223866483

Web Site: www.tayseerintl.com

Contents

- TSC Identification
- TSC chemicals
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TSC

TAYSEER INTERNATIONAL CHEMICALS CO.

Tayseer International Chemicals Company is a Saudi Egyptian enterprise that branched from Saudi Al-Tayseer Company. Founded in 2022, The company operates in three sectors: Water Treatment Chemicals, Fertilizers, and Commodities.

Mission

We aim to provide chemical solutions for diverse range of industries starting from water treatment to fertilizers and commodities

TSC

TAYSEER INTERNATIONAL CHEMICALS CO.

Mission

We aim to provide chemical solutions for diverse range of industries starting from water treatment to fertilizers and commodities

Core Values of Tayseer International Chemicals Company

1. Quality:

Commitment to the highest quality standards in all our products and services.

2. Innovation:

Encouraging creative thinking and seeking new solutions to improve water treatment processes.

3.Sustainability:

Commitment to protecting the environment and conserving water resources for future generations.

4. Integrity:

Conducting our dealings with customers and partners transparently and ethically.

5. Collaboration:

Promoting teamwork and cooperation among all company members to achieve our common goals.

Tayseer International Chemicals Company is dedicated to realizing its vision and mission through adherence to its core values, thereby reinforcing its position as a key partner in the field of water treatment.

TSC - Products

- TPP-100 Coagulant PAC 18%
- TSC- FC 40 %
- TSC- PAFC
- TPP- POLY-ACRELAMIDE TW-8120

Poly Aluminum Chloride

TPP-100 Coagulant PAC 18%
Pale Yellow Liquid

TRYSEER INTERNATIONAL CHEMICAL CO.

TDS of TPP-100 Coagulant PAC 18%

S/N	Parameters	Specification
1	Appearance	Pale Yellow Liq.
2	Alumina content as Al_2O_3	18.0 % ± 1.5 %
3	Aluminum Content (Al)	9.5 ± 1 %
4	Basicity	40-50 %
5	pH of 1% Solution	3.5 – 5.0
6	Specific Gravity at 25°C	1.35- 1.4
7	Chloride	17-23 %
8	Sulphate	0.2 % max
9	Total Iron	≤ 80 ppm
10	Insoluble Matter	≤ 0.1 %
11	Heavy Metals	Arsenic (AS) < 1 ppm
		Cadmium (Cd) < 1 ppm
		Chromium (Cr) < 1 ppm
		Mercury (Hg) < 1 ppm
		Nickel (Ni) < 1 ppm
		Lead (Pb) < 1 ppm
		Antimony (Sb) < 1 ppm
		Selenium (Se) < 1 ppm

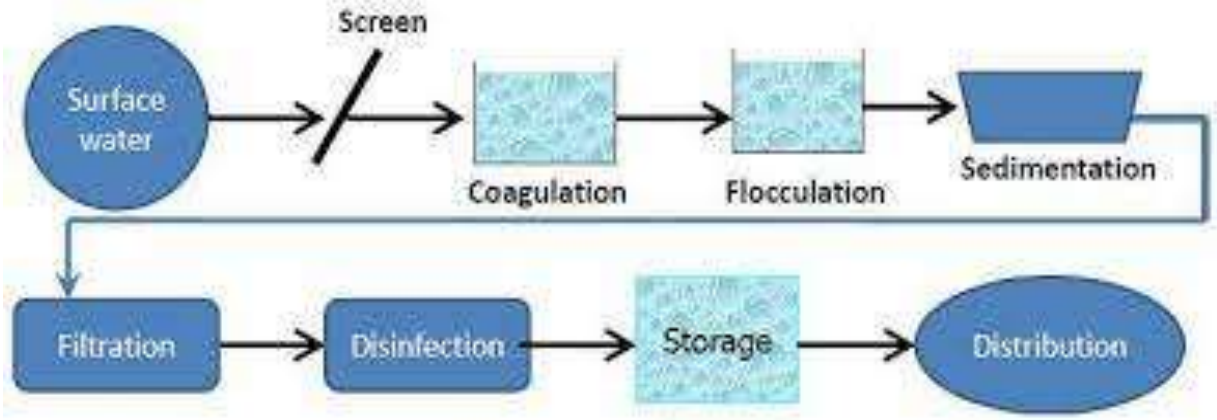
TPP-100 Coagulant PAC 18%APPLICATIONS

Storms water and Dams

STP, IWTP

R.O Desalination plants

Dewatering of sludge



Surface water treatment

Advantages of TPP-100 Coagulant PAC 18%

- Very fast hydrolysis
- Promote rapid settling rates
- Extremely efficient in cold water
- Consume less alkalinity
- Cause less corrosion
- Prevent some scale formation
- Sludge dense and compact.
- Lower pre or post flocculation adjustments
- Reduced requirements for organic polymer
- Improved performances of treatment
- Produce less sludge
- Local availability at almost no cost.
- Reduction of residual aluminum

A comparison between TPP-100 Coagulant PAC 18%versus Alum

Criteria	TPP-100 PAC 18 %	Alum
Increasing Sulphate conc.	-	Highly increase
Floc formation	Fast	Slow
Floc. Size	Large	Medium
Sludge amount	Small	Very Much
Sludge density	More dense and more compact	Less dense and less compact
Residual Aluminum	Negligible	Much amount
Increase of Iron Conc.	-	-
Coloring water solutions	-	-
Low Temperatures	Still very effective	Very ineffective
Un -dissolved TOC removal	Very effective	Not effective

A comparison between TPP-100 Coagulant PAC 18%versus Alum

Criteria	TPP-100 PAC 18 %	Alum
DOC removal	Not effective	Effective
Organic Colloids removal	High effective	Not effective
Dose	Very high	Very high
Unit Price	Expensive	Cheap
Needed CAPEX	≈ (20%-30% Saving)	High
Power consumption	Low	High
OPEX	≈(20%-30% Saving)	High
Footprint needed	≈ (30%-40% Saving)	High
Handling, Shipping & Storage	Easier & much lower cost	Harder & much higher cost

Case Studies- Saudi Arabia and Egypt

- Storm dams' treatment (Saudi Arabia)
- surface water treatment
- SWRO Pre-treatment
- Industrial Wastewater
- Tertiary treatment of sewage wastewater
- Swimming Pools
- Agricultural Wastewater
- Carwash treatment
- Dewatering of sludge

A comparison between TPP-100 Coagulant PAC 18%versus Alum

Coagulant	TPP-100 PAC 18%	Alum(liquid 50%)
Sample type	**Nile River "Giza Governorate "**	
Initial Turbidity (NTU)	7.2	
Concentration (%)	0.5	1
Volume (ml)	0.5	2
Dose (ppm)	2.5	20
Ratio as Alum 50%	1	8
Final Turbidity (NTU)	2.28	2.71
Volume (ml)	0.6	3
Dose (ppm)	3	30
Ratio as Alum 50%	1	10
Final Turbidity (NTU)	2.07	1.66

CHARACTERIZATION AND EVALUATION Surface water treatment - Storm water /dams

Reducing	• 45% Reducing Caustic Soda consumption plus more water Production quantities by 25%
Reducing	pumps replacements and maintenance and network corrosion as well @ PH 7.3.

CHARACTERIZATION AND EVALUATION Surface water treatment - Storm water /dams

Reducing	• Chlorine gas consumption by 55% to 60%
Reducing	• Sulfuric acid by 20%
Feasibility	• ≈50%cost reduction

A comparison between TPP-100 Coagulant PAC 18%versus Alum

Coagulant	TPP-100 PAC 18%	Alum(liquid 50%)
Sample type	**Sea water**	
Initial Turbidity (NTU)	3.3	
Concentration (%)	0.5	1
Volume (ml)	0.1	1
Dose (ppm)	1	10
Ratio as Alum 50%	1	10
Final Turbidity (NTU)	1.3	1.01

Coagulant	TPP-100 PAC 18%	Alum(liquid 50%)
Sample type	**Industrial wastewater (Textile factory)**	
Initial Turbidity (NTU)	250	
Concentration (%)	100	50
Volume (ml)	0.120	2
Dose (ppm)	120	1000
Ratio as Alum 50%	1	8
Final Turbidity (NTU)	1.5	1.74

A comparison between TPP-100 Coagulant PAC 18%versus Alum

Coagulant	TPP-100 PAC 18%	Alum(liquid 50%)
Sample type	**Sewage wastewater**	
Initial Turbidity (NTU)	210	
Concentration (%)	0.5	1
Volume (ml)	5	25
Dose (ppm)	25	250
Ratio as Alum 50%	1	10
Final Turbidity (NTU)	2.02	1.99

Coagulant	TPP-100 PAC 18%	Alum(liquid 50%)
Sample type	**Swimming pool**	
Initial Turbidity (NTU)	8	
Concentration (%)	0.5	1
Volume (ml)	0.2	1
Dose (ppm)	1	10
Ratio as Alum 50%	1	10
Final Turbidity (NTU)	1.75	1.97

A comparison between TPP-100 Coagulant PAC 18%versus Alum

Coagulant	TPP-100 PAC 18%	Alum(liquid 50%)
Sample type	**Agricultural wastewater**	
Initial Turbidity (NTU)	35.6	
Concentration (%)	0.5	1
Volume (ml)	1	2
Dose (ppm)	5	20
Ratio as Alum 50%	1	4
Final Turbidity (NTU)	1.71	1.65

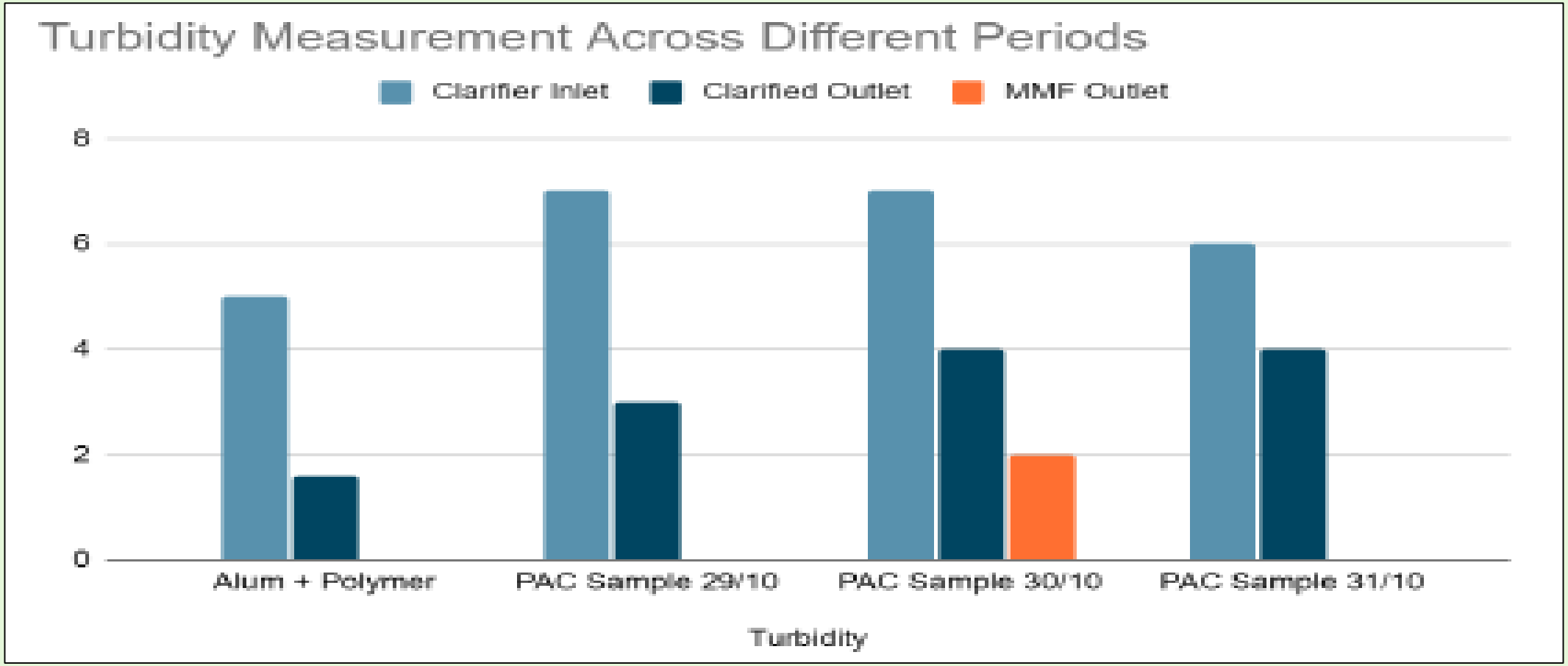
Comparative study between TPP -100 coagulant PAC 18% versus Alum in Fertilizer industries (MOPCO)

Jar Test :

Jar no.	1	2
Initial turbidity	5-7 NTU	
Type of couagulant	Alum	TPP-100 PAC 18%
Optimum dose (ppm)	27	7
Anionic polymer Dosing	0.06 gm/ m3	-
Final turbidity	Higher than allowable limits	2.3

Comparative study between TPP -100 coagulant PAC 18% versus Alum in Fertilizer industries (MOPCO)

Field Trial (Period: 3 days)



Comparative between TPP-100 coagulant PAC 18% and Alum from urban communities (Damietta)

Jar Test :

Initial turbidity	3.7 NTU		
Jar no.	1	2	3
Type of coagulant	TPP-100 PAC 18%		Alum
Dose (ppm)	3	4	30
Final turbidity (NTU)	1.8	1.88	1.8
pH	8.14	8.12	7.8

Case Study in Leather industries
(مدينة الجلود بالروبيكي)

Initial measurements:

Turbidity (NTU)	TDS (ppt)	pH	pH after adj.	COD (ppm)
1153	8.9	10.5	8.6	2731

After treatment:

Jar no.	1	2
Type of Coagulant	TSC-PAC	TSC-PAFC
Doses of coagulant (ml)	0.8	1.2
Dose of TSC-A.P (ppm)	5	5
Final turbidity (NTU)	20.6	21.8
Removal percent %	98.2	98.1

Case Study in paper industries
(مصنع النيل للعبوات)

Before treatment:

Initial turbidity (NTU)	TDS (ppm)	TSS (ppm)	pH	COD (mg/l)
3634	825	5451	6.93	3868

After treatment:

Parameters	Effluent Sample	Results of Lab treat.
Appearance	Turbid-Dark grey	Clear-slightly yellow
Doses of TSC-PAFC (gm)	-	1.875
Dose of anionic polymer (ppm)	-	10
Final turbidity (NTU)	732	19
Removal percent %	80	99.4
TDS (ppm)	910	998
pH	7	6.8
COD (ppm)	2034	2027

Ferric Chloride

TSC-FC 40%
Dark Brown Liquid

TSC
TRYSEER INTERNATIONAL CHEMICAL CO.

TDS of TSC-FC 40%

S/N	Parameters	Specification
1	Appearance	Dark brown Liq.
2	Total iron %	Min. 13
3	Ferric Chloride %	Min. 38
4	Free acid %	Max. 1
5	pH of 1% solution	2 – 3.0
6	Specific Gravity at 25 ºC	1.38 – 1.42
7	Insoluble Matter %	≤ 0.1
8	Heavy metals (ppm)	< 200

TSC-100 FC 40 % APPLICATIONS

- Sewage treatment.
- Production of printed circuit boards.
- As catalyst in many reactions.
- Colorimetric tests for phenols.
- Test gamma-hydroxybutyric acid and gamma -butyrolactone.
- as a drying reagent in many reactions.
- by bladesmiths and artisans in pattern welding.
- Strip aluminum coating from mirrors.
- Etch intricate medical devices.

Advantages of TSC-FC 40 % :

- Precision: Allows for fine details and high-resolution etching.
- Reusability: The etching solution can be regenerated or reused to some extent.
- Accessibility: Readily available to both industrial users and hobbyists.
- Cost-Effective: Offers a balance between performance and cost
- Versatility: Effective over a wide pH range and in various water conditions.
- Phosphate Removal: Binds with phosphates, reducing nutrient loads that can cause algae blooms.
- Odor Control: Reduces hydrogen sulfide levels, minimizing foul odors.
- Sludge Conditioning: Improves dewatering characteristics of sludge

Poly Aluminum Ferric Chloride

TSC-CO polymer
Dark Brown Liquid

TAYSEER INTERNATIONAL CHEMICALS CO.

(TSC-CO-Polymer):

TDS of TSC-CO-Polymers

S/N	Parameters	Specification
1	Appearance	Reddish Brown Liq.
2	Specific Gravity at 25 °C	1.35 - 1.40
3	pH of 1% solution	2 - 3
4	Total Iron Fe %	8.5 - 10
5	Ferric Oxide Fe_2O_3 %	3 - 4.5
6	Aluminum Content Al %	5 - 6.5
7	Aluminum Oxide Al_2O_3 %	11 ± 1
8	Free acid %	Max. 1

Applications

- Various industrial wastewater treatment: printing and dyeing wastewater,, heavy metal wastewater, oily wastewater, papermaking wastewater, coal washing wastewater, mining wastewater, brewing wastewater, metallurgical wastewater, meat processing wastewater, sewage treatment.
- Paper sizing. Urban water supply and drai purification: river water, reservoir water, groundwater.
- Recovery of useful substances in industria wastewater and waste residue.
- Promote the sedimentation of pulverized coal in coal washing wastewater
- Recycling of starch in the starch manufact industry.

Polyacrylamide TW-8120

Anionic Polymer

TDS of TSC-POLYACRYLAMIDE

Utilization: as superior flocculant for wastewater treatment.

Parameters	Specification
Appearance	White powder
Solid content	90%
Dissolved time	60 min
Effective pH range	4 – 11
Residues	≤0.05%
pH (0.1%)	7 – 8

TSC-POLYACRYLAMIDE APPLICATIONS

- 1.Treatment of chemical industry wastewater and liquid waste, municipal sewage treatment.
- 2.Drinking water treatment and purification.
- 3.Used in petroleum industry, oil extraction, drilling mud, waste mud treatment.
- 4.Coal washing plant (filtration of coal slurry sedimentation and concentration tailings).
- 5.Biological treatment of waste liquid in the dairy industry.
- 7.paper sizing agent.
- 8.Incense manufacturing industry.
- 9.Used in textile, printing and dyeing industry.
- 10.Other industries, food industry.

CIRTIFICATES

CIRTIFICATES

شهاده تقييم لمنتج

TPP-100 Coagulant PAC 18%

من مؤسسه KIWA الهولندية

(Top-20 leaders In world for testing & certification)

يفيد بمطابقه ماده

TPP-100 Coagulant PAC 18%

لمعايير

KIWA

CERTIFICATE

Product certificate
K96622/01

Issued 2017-11-01

Replaces -

Page 1 of 2

Drinking water treatment chemicals – health effects according to NSF/ANSI 60

STATEMENT BY KIWA
With this product certificate, issued in accordance with the Kiwa Regulations for Product Certification, Kiwa declares that legitimate confidence exists that the products:

TPP-100 Coagulants PAC 13%, PAC 18% and PAC 23%

supplied by

TWATCO Advanced Water Treatment Co.

as specified in this product certificate and marked with the Kiwa®-mark in the manner as indicated in this product certificate may, on delivery, be relied upon to comply with Kiwa evaluation guideline Manual K15006 for "drinking water treatment chemicals – health effects according to **NSF/ANSI 60**", dated 27 May 2016.

Luc Leroy
Kiwa

Publication of this certificate is allowed.
Advice: consult www.kiwa.nl in order to ensure that this certificate is still valid.

Company
TWATCO Advanced Water Treatment Co.
Yanbu City Royal Commission
Light Industrial Area 7th Street
Yanbu
Saudi Arabia

kiwa NSF/ANSI 60

Certification process consists of initial and regular assessment of:
- quality system
- product

TRYSEER INTERNATIONAL CHEMICAL CO.

CIRTIFICATES

شهاده تقييم لمنتج

TPP-100 Coagulant PAC 18%

من مؤسسه KIWA الهولندية

(Top-20 leaders In world for testing & certification)

يفيد بمأمونيه ماده

TPP-100 Coagulant PAC 18%

في معالجه مياه الشرب

Product certificate
K96954/01

kiwa

Issued 2017-11-01

Replaces

Page 1 of 3

CERTIFICATE

TPP-100 Coagulants PAC 13 %, PAC 18 % and PAC 23 %

STATEMENT BY KIWA
With this product certificate, issued in accordance with the Kiwa Regulations for Certification, Kiwa declares that legitimate confidence exists that the products supplied by

TWATCO Advanced Water Treatment Co.

as specified in this product certificate and marked with the Kiwa®-mark in the manner as indicated in this product certificate may, on delivery, be relied upon to comply with the Regeling materialen en chemicaliën drink- en warm tapwatervoorziening dated 01-07-2017 (Materials and chemicals in the supply of drinking water and warm tap water Regulation).

Luc Lamy
Kiwa

Publication of this certificate is allowed.
Advice: consult www.kiwa.nl in order to ensure that this certificate is still valid.

Company
TWATCO Water Advanced Treatment Co.

Certification process consists of initial and regular assessment of:
- quality system
- product

CIRTIFICATES

TRYSEER INTERNATIONAL CHEMICAL CO.

شهاده تقييم لمنتج

TPP-100 Coagulant PAC 18%

من وزاره البيئة والزراعة

بالمملكة العربية السعودية

تفيد بان ماده

TPP-100 Coagulant PAC 18%

تم استخدامها مع كافه أنواع

المياه لمده 19 شهر وادت الى

انخفاض في تكلفه التشغيل

بنسه تصل الى 25%

المملكة العربية السعودية
وزارة البيئة والمياه والزراعة
المديرية العامة للمياه بمنطقة عسير

السادة شركة المعالجة المتطورة لتنقية ومعالجة المياه (تواتكو) المحترمين

السلام عليكم ورحمة الله وبركاته

إشارة الى خطابكم رقم ت . و ٢٩٩- ٣١- ١٨ بتاريخ ١٤٣٩/١٠/٢٧هـ و المقيد لدى هذه المديرية برقم ١٤٣٩/٧٢٠٣٤/١٥٨٢٣٦ بتاريخ ١٤٣٩/١١/٢ هـ بشأن الاستعلام عن نتائج منتجكم البولي المنيوم كلورايد PACl بتركيز ١٨٪ والذي تم تجربته في محطة تنقية مشروع مياه عنود بمركز مربة إبتداءاً من تاريخ ٢٠١٧/١/١ وحتى الان .

نود إحاطتكم أنه تم تجربة المنتج على مدى ١٩ شهراً ماضية على مختلف أنواع المياه الخام وقد حقق نجاحاً في نتائج التشغيل وتخفيضاً في استهلاك كيماويات التشغيل بمعدل يتراوح من ٢٥- ٣٠٪ كما ظهر بشكل واضح عدم تأثر الأسطح المعدنية والخرسانية بالمشروع وعدم تأكسدها بالمياه نتيجة اختلاطها بالمخثر وتاكد بما لايدع مكانا للشك أنه أفضل من المخثر السابق (الفيروك كلورايد) .

ولكم أطيب تحياتي ::::

مدير عام
الإدارة العامة لخدمات المياه بمنطقة عسير
تركي أحمد آل مفرح

الرقم : ٦٠٨٢٣٦/٧٢٠٣٤/١٤٣٩ التاريخ : ١١/ ١١/ ١٤٣٩ المشفوعات :

CIRTIFICATES

شهاده تقييم لمنتج

TPP-100 Coagulant PAC 18%

من معهد أبحاث وتقنيات

التحلية بالمملكة العربية

السعودية

يفيد بان الجرعة المثلى ل

TPP-100 Coagulant PAC 18%

هي 0.5 مجم/لتر في

المعالجة الأولية لمياه التحلية

Saline Water Conversion Corporation
Desalination Technologies Research Institute

SWCC

DTRI

CERTIFICATE OF EVALUATION

Certificate No. CPC-3811-16-02/ V-1 dated 17/01/2018

AWARDED TO

M/S. WATER ADVANCE TREATMENT CO. LTD.(TWATCO)

The experiment was conducted to evaluate the performance of different concentrations of TWATCO's Poly Aluminum Chloride (PAC 100) as coagulation agent in seawater pre-treatment. The test was carried out at DTRI Pilot Plant in a two stage media filters with a control test in parallel, where ferric chloride was used as coagulant (as 1 ppm Fe^{3+}). The duration of the test was 10 weeks, which started on 29th October, 2017 and ended on 18th January, 2018.

Based on the test result, it is certified that the performance between ferric chloride (as 1 ppm Fe^{3+}) and poly aluminum chloride (as 0.5 ppm Al^{3+}) is comparable in terms of SDI and there is no significant difference in terms of TOC and turbidity. Moreover, the average residual Al^{3+} in the filtrate was 0.027 ppm.

For more details of the trial, please refer to Technical Report No. CPC- 3811-16-02/V-1 dated 17/01/18

Dr. Ahmad Saleh Mohammed Alamoudi
Director General, DTRI

ISO 9001:2008

P.O. Box: 8328, Al-Jubail-31951, Kingdom of Saudi Arabia
Tel: (03) 343 3477 Fax: 343 1615, E-mail: rdc@swcc.gov.sa

TSC
TRYSEER INTERNATIONAL CHEMICAL CO.

CIRTIFICATES

Integrated Management of Domestic& Industrial Wastewater and Sludge

NRC

قسم بحوث تلوث المياه
مجال الإدارة المتكاملة للمخلفات الآدمية والصناعية السائلة والحماه

دراسة مقارنه عن استخدام كل من البولى الومنيوم كلورايد (PAC 18%) والشبة لمعالجة نوعيات مختلفة من المياه

رئيس المجال

أ.د فاطمه الجوهري

يناير 2022

Integrated Management of Domestic& Industrial Wastewater and Sludge

NRC

قسم بحوث تلوث المياه
مجال الإدارة المتكاملة للمخلفات الآدمية والصناعية السائلة والحماه

4. الخلاصه

التقييم النهائي:

- كفاءه PAC 18% تسعه امثال كفاءه Alum عند استخدامه فى تنقيه مياه نهر النيل(محطه روض الفرج)
- كفاءه PAC 18% عشره امثال كفاءه Alum عند استخدامه فى معالجه مياه الصرف الصحى(محطه زنين)
- تقارب كفاءه PAC 18% مع Alum عند استخدامها فى تجارب مياه البحر(راس البر) مياه الصرف الصناعى (مصنع النحاس) مياه الصرف الزراعى (محطه المحسمه) ومياه الترع (ترعه الرياض بكفر الشيخ) مع الاخذ فى الاعتبار ان كفاءه PAC18 فى ازاله الحمل العضوى والبيولوجى اعلى من Alum
- الالمونيوم المتبقى اقل فى حاله استخدام PAC 18% عنه فى حاله استخدام Alum
- الجرعه اقل فى حاله استخدام PAC 18% والتى لها بعض المزايا ومنها:

1. فى حاله استخدام PAC 18% فان زمن تكون الندف صغير
2. كميه الندف المتكونه فى حاله PAC 18% اقل منها فى حالهAlum وتصل الى نصف الكميه
3. التغير فى الاس الهيدروجينى فى حاله استخدام PAC 18% غير ملحوظ
4. PAC 18% لا يحتاج الى تقليب كثيرا لانه سريع التحلل فى المياه
5. الحماه الناتجه عند استخدام PAC 18% عاليه الكثافه
6. يقلل PAC 18% من الالمونيوم المتبقى والمسبب لامراض الزهايمر
7. الجرعه المنخفضه من PAC 18% تؤدى الى تقليل مرات غسيل المرشحات وبالتالى تقلل فاقد الغسيل وتقلل تكلفه الطاقه و ايضا تكلفه انتاج المتر المكعب من مياه الشرب وتعطى مياه ذات جوده عاليه مقارنه ب Alum
8. بصفه عامه يعتبر ال PAC 18% من الناحيه الفنيه أفضل من الشبه

CIRTIFICATES

شهاده تقييم لمنتج

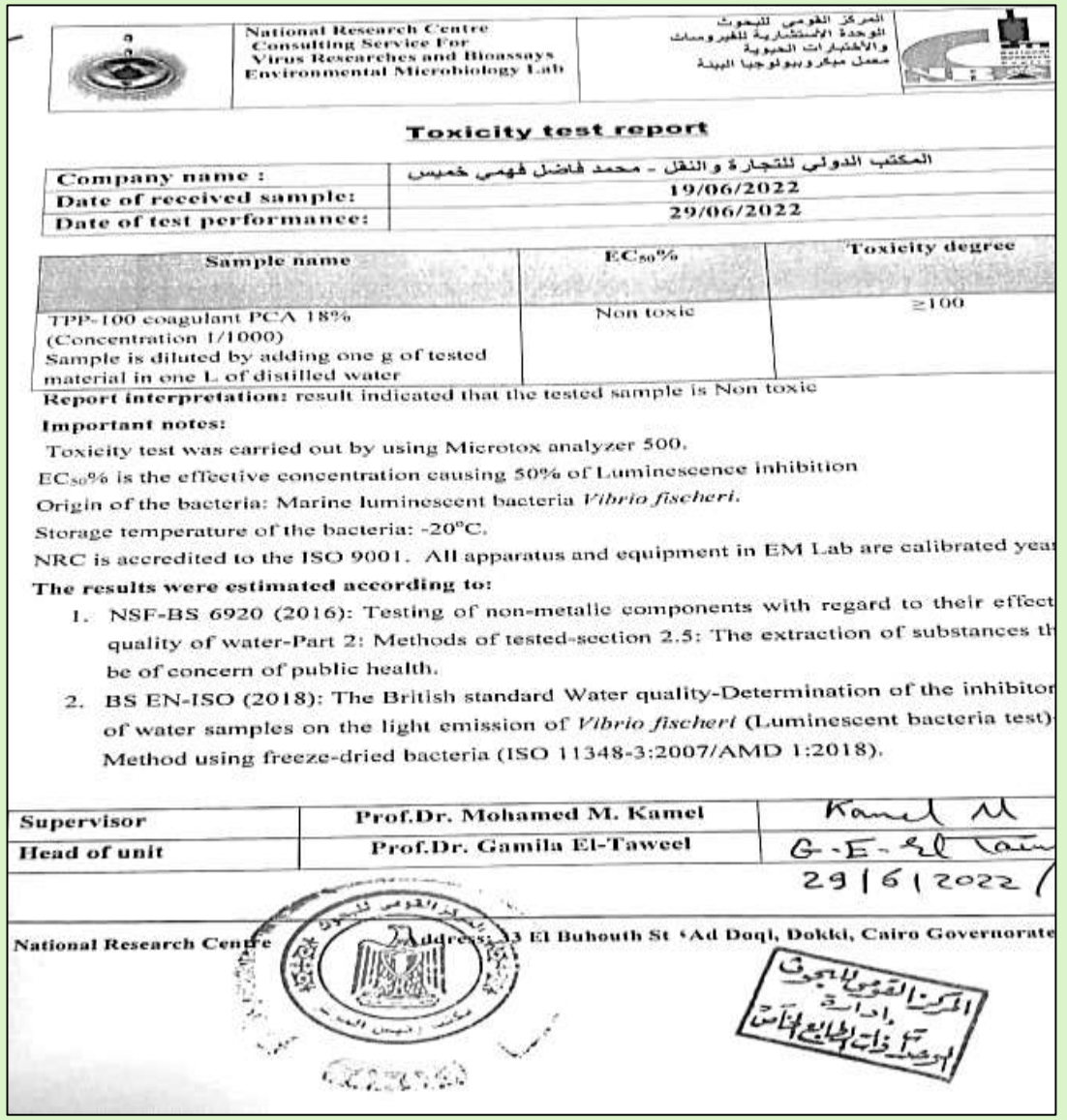
TPP-100 Coagulant PAC 18%

من المركز القومي للبحوث

يفيد بخلو

TPP-100 Coagulant PAC 18%

من السمية



National Research Centre
Consulting Service For
Virus Researches and Bioassays
Environmental Microbiology Lab

المركز القومي للبحوث
الوحدة الاستشارية للفيروسات
والاختبارات الحيوية
معمل ميكروبيولوجيا البيئة

Toxicity test report

Company name :	المكتب الدولي للتجارة و النقل - محمد فاضل فهمي خميس
Date of received sample:	19/06/2022
Date of test performance:	29/06/2022

Sample name	EC_{50}%	Toxicity degree
TPP-100 coagulant PCA 18% (Concentration 1/1000) Sample is diluted by adding one g of tested material in one L of distilled water	Non toxic	≥100

Report interpretation: result indicated that the tested sample is Non toxic

Important notes:

Toxicity test was carried out by using Microtox analyzer 500.

EC_{50}% is the effective concentration causing 50% of Luminescence inhibition

Origin of the bacteria: Marine luminescent bacteria *Vibrio fischeri.*

Storage temperature of the bacteria: -20°C.

NRC is accredited to the ISO 9001. All apparatus and equipment in EM Lab are calibrated yea

The results were estimated according to:

1. NSF-BS 6920 (2016): Testing of non-metalic components with regard to their effect quality of water-Part 2: Methods of tested-section 2.5: The extraction of substances th be of concern of public health.
2. BS EN-ISO (2018): The British standard Water quality-Determination of the inhibitor of water samples on the light emission of *Vibrio fischeri* (Luminescent bacteria test) Method using freeze-dried bacteria (ISO 11348-3:2007/AMD 1:2018).

Supervisor	**Prof.Dr. Mohamed M. Kamel**	Kamel M
Head of unit	**Prof.Dr. Gamila El-Taweel**	G-E-El Tawe
		29/6/2022

National Research Centre Address: 33 El Buhouth St, Ad Doqi, Dokki, Cairo Governorate

المركز القومي للبحوث
ادارة
الوحدة ذات الطابع الخاص

CIRTIFICATES

شهاده تقييم لمنتج

TPP-100 Coagulant PAC 18%

من وزاره الصحة

والتي خلصت الى كفاءه ماده

TPP-100 Coagulant PAC 18%

في معالجه مياه الشرب والضرف

الصحي والزراعي وافضليتها عن

الشبه من الناحية الفنية

والاقتصادية والصحية

وزارة الصحة والسكان
الإدارة العامة لصحة البيئة

Preventive sector
الإدارة المركزية لشئون البيئة
Central Administration of Environmental Affairs
الإدارة العامة لصحة البيئة
General Administration of Environmental Health

السيد الاستاذ/ أحمد محمد فاضل
شركة الأصلية للتجارة و التوريدات
٢ ش على امين مدينة نصر - الدور ١٠ مكتب ١٠٠٣

بالاحالة الى كتاب سيادتكم بشأن طلب عرض موضوع استخدام مادة TPP-100 COAGULANT PAC 18% في معالجة مياه الشرب و معالجة مياه الصرف الصحي بأنواعه (الصحي و الزراعي و الصناعي) على اللجنة العليا للمياه لإعتماد المادة

نتشرف بالإحاطة أنه تم عرض الموضوع على اللجنة العليا للمياه جلسة ٢٠٢٢/٩/١٢ والمعتمدة من معالي السيد الأستاذ الدكتور / وزير الصحة والسكان

وقد اتخذت اللجنة القرار الآتي :

" بعد استعراض رأي اللجنة العلمية بوزارة الإسكان و المرافق و المجتمعات العمرانية و التجارب المعملية التي تم اجراءها بالمركز القومي لبحوث و التجارب التي تم اعدادها بواسطة الشركة القابضة لمياه الشرب و الصرف الصحي والتي خلصت إلى كفاءة مادة TPP-100 COAGULANT PAC 18% في معالجة محطات مياه الشرب و الصرف الصحي والصرف الزراعي وافضليتهاعن الشبه من الناحية الفنية و الصحية و الإقتصادية، ترى اللجنة اعتماد مادة TPP-100 COAGULANT PAC 18% في معالجة مياه الشرب و الصرف الصحي والصرف الزراعي "

وتفضلوا بقبول فائق الاحترام ،،،

مدير
إدارة الرقابة على المياه
ك / منى عزت عبد التواب

القائم بتسيير أعمال مدير عام
الإدارة العامة لصحة البيئة

رئيس
الإدارة المركزية لشئون البيئة
د/ مايسة حمزة

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وزارة الإسكان والمرافق والمجتمعات العمرانية

اللجنة العلمية المشكلة بالقرار الوزارى رقم ٨٠١ لسنة ٢٠١٩

لمراجعة أنشطة المياه وتطبيق الدعم الفنى ودراسة الإبتكارات

وزارة الإسكان والمرافق والمجتمعات العمرانية

محضر الإجتماع العشرون

٢١ يونيو ٢٠٢٢

من توصيات الاجتماع :

- **اللجنة لا تمانع من استخدام ماده TPP-100 Coagulant PAC 18% في محطات مياه الشرب والصرف الصحي والزراعي بعد ثبوت كفاءتها.**
- **احاله الامر لوزارة الإسكان لتحديد الحاجه لاستخدام ماده TPP-100 Coagulant PAC 18% بدلا من الشبه**

Tayseer International Chemicals Company (TSC): A Leader in Water Treatment Solutions

TSC has established 2021 itself as a prominent player in the field of water treatment chemicals. Founded with the vision of addressing critical water management challenges, the company has grown to offer innovative solutions tailored to the diverse needs of its clients. With a focus on sustainability and efficiency, TSC is dedicated to improving water quality and promoting environmental responsibility. and we are dedicated to developing new technologies that contribute to sustainable development goals and align with SGS goals and Egypt's Vision 2030.

Company Overview

TSC is headquartered in [Plot 165, 800 acres area, behind the army hangars - Al-Roubiki Badr.], where it operates state-of-the-art manufacturing facilities. The company specializes in producing a wide range of chemicals for water treatment, including coagulants, flocculants, disinfectants, and various specialty chemicals. These products are essential for industries ranging from municipal water treatment plants to industrial processes.

TSC vision to be the global first choice in water treatment chemicals by offering innovative and sustainable solutions that meet market demands and contribute to the protection of water resources

TSC mission is to provide high-quality chemical solutions that ensure clean and safe water while minimizing environmental impact. TSC places a strong emphasis on research and development, continuously seeking to enhance its product offerings and stay ahead of industry trends.

Product Range

TSC product portfolio is extensive, catering to various sectors:

- Coagulants and Flocculants: These chemicals are vital in the water treatment process. Coagulants help in aggregating suspended particles, while flocculants facilitate the formation of larger aggregates for easier removal. TSC offers a variety of formulations to suit different water sources and treatment requirements.

Chairman:
Eng. Tayseer Al-Sheikh
Vice Chairman:
Account. Ahmed Khamis
CEO:
Eng.Mohamed Tayseer Al-Sheikh
Company Consultant:
Dr. Fathy Ghorab

- Biological Treatment Solutions (future study): TSC has developed biological treatment products that leverage natural processes to enhance wastewater treatment efficiency. These solutions are environmentally friendly and contribute to sustainable waste management practices.
- RO unit for agricultural wastewater treatment: TSC has developed specific wastewater treatment products that leverage natural processes to enhance wastewater treatment efficiency.

Commitment to Sustainability

Sustainability is at the core of TSC operations. The company recognizes the importance of preserving water resources and minimizing environmental impact. By providing effective treatment solutions, Tayeir helps industries reduce their water consumption and improve wastewater management. The company actively engages in research to develop eco-friendly products that minimize chemical usage while maximizing treatment efficiency. TSC commitment to sustainability extends to its manufacturing processes, where it implements practices that reduce waste and energy consumption.

Client-Centric Approach

TSC prides itself on its client-centric approach. The company understands that each client has unique challenges, and it works closely with them to develop tailored solutions. A dedicated team of experts is available to provide technical support and guidance, ensuring that clients receive the best possible service. Through regular training and workshops, TSC educates its clients about the latest advancements in water treatment technologies. This collaborative approach not only builds strong relationships but also empowers clients to make informed decisions regarding their water treatment processes.

Industry Applications

TSC products find applications across various industries, including:

- Water purification: TSC supplies chemicals for drinking water treatment plants, ensuring the delivery of safe and clean water to communities.
- Industrial Processes: TSC solutions are used in industries such as food and beverage, pharmaceuticals, and manufacturing, where water quality is crucial for operational efficiency.

- Wastewater Treatment: TSC provides comprehensive solutions for municipal and industrial wastewater treatment, helping facilities comply with environmental regulations.
- Cooling and Boiler Systems: TSC specialty chemicals enhance the efficiency of cooling and boiler systems, reducing energy consumption and prolonging equipment life.

Research & Development

Innovation is a key driver of TSC success. TSC invests significantly in research and development to stay at the forefront of the industry. By collaborating with academic institutions and industry experts, TSC continuously explores new technologies and methodologies for water treatment.

TSC: Specialists in Water Treatment Solutions

- Overview

TSC is a leading manufacturer of water treatment chemicals, primarily focusing on Poly Aluminum Chloride (TPP.100 PAC 18%) and Ferric Chloride (TSC-FC). With a commitment to providing effective solutions for water quality enhancement, TSC serves various industries including municipal water treatment, industrial processes, and wastewater management.

Future approaches

- Expanding of R&D research for a novel chemicals for water and wastewater treatment
- Implementation of drinking water and sewage treatment plants
- Factory and labs well be accredited

- Tayseer International Chemicals
- P.O. Box: Head Office: 2, Ali Amin, Nasr City, Cairo, Egypt,
- Factory: Plot 165, 800 acres area, behind the army hangars - Al-Roubiki Badr.
- Phone #: +20223866483
- Web Site: www.tayseerintl.com

TSC

TAYSEER INTERNATIONAL CHEMICAL CO.