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SAFETY DATA SHEET

PETROFLO 21Y621 (PetroKare PK 81 A)

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

1.1. Product identifier

Trade name or designation of the mixture PETROFLO 21Y621 (PetroKare PK 81 A)

Version number 8.3

Revision date 23/04/2020

Supersedes date 03/05/2018

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

Identified uses Neutralising corrosion inhibitor

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, Chirchik city,

Tashkent Region, Republic of Uzbekistan, 111727

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, Chirchik city,
Tashkent Region,
Republic of Uzbekistan, 111727

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

Health hazards

Acute toxicity, dermal	Category 4	H312 - Harmful in contact with skin.
Acute toxicity, inhalation	Category 4	H332 - Harmful if inhaled.
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.
Specific target organ toxicity - single exposure	Category 3 respiratory tract irritation	H335 - May cause respiratory irritation.

Environmental hazards

Hazardous to the aquatic environment, long-term aquatic hazard	Category 3	H412 - Harmful to aquatic life with long lasting effects.
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2.2. Label elements

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

Contains: Ethanolamine

Hazard pictograms



Signal word Danger

Hazard statements

- H312 Harmful in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H332 Harmful if inhaled.
- H335 May cause respiratory irritation.
- H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention

- P273 Avoid release to the environment.
- 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 Neutralising amine

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Ethanolamine	60 - < 90	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	0,1< 1	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				

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** Wash off immediately with plenty of water for at least 15 minutes.



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Eye contact	Rinse immediately with plenty of water for at least 15 minutes. Keep eyelids apart. 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. Upper respiratory tract irritation.
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	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	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	Combustible. Alkaline. Do not mix with acidic material.
7.2. Conditions for safe storage, including any incompatibilities	Keep away from flames and sparks. Earth containers during filling or discharge when performed at temperatures at or above product flash point.
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



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Occupational exposure limits

UK. EH40 Workplace Exposure Limits (WELs)

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

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	

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	
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	

Exposure guidelines

UK EH40 WEL: Skin designation

Ethanolamine (CAS 141-43-5) Can be absorbed through the skin.

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.



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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) 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 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 Strong ammonia

Odour threshold Not available.

pH (concentrated product) > 13

pH in aqueous solution 11,4 (5% SOL.)

Melting point/freezing point < -34 °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 < 1 mm Hg

Vapour pressure temp. 21 °C

Vapour density > 1 (Air = 1)

Relative density 1,03

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 15 cps

Viscosity temperature 21 °C



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Explosive properties	Not available.
Oxidising properties	Not available.
9.2. Other information	
Pour point	< -34 °C
Shelf life	720 days
VOC	80 % (Calculated)

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	Keep away from all sources of ignition.
10.5. Incompatible materials	Avoid contact with strong oxidisers.
10.6. Hazardous decomposition products	Oxides of carbon and nitrogen evolved in fire.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Product	Test Results
PETROFLO 21Y621 (PetroKare PK 81 A) (Mixture)	Acute Dermal LD50 Rabbit: 1280 mg/kg (Calculated according to GHS additivity formula) Acute Inhalation LC50 Rat: 1,88 mg/l 4 hours (Calculated according to GHS additivity formula) Acute Oral LD50 Rat: 2150 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
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

Acute toxicity	Harmful if inhaled. Harmful in contact with skin.
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 respiratory irritation.
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.
Inhalation	May cause irritation to the respiratory system.
Skin contact	Causes severe skin burns.



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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	
PETROFLO 21Y621 (PetroKare PK 81 A) (CAS Mixture)			
Aquatic			
Crustacea	LC50	Daphnia magna	135 mg/l, Flow-Thru Bioassay, 48 hour
	NOEL	Daphnia magna	31 mg/l, Flow-Thru Bioassay, 48 hour
Fish	0% Mortality	Fathead minnow	500 mg/l, Flow-Thru Bioassay, 96 hour
	10% Mortality	Fathead minnow	1000 mg/l, Flow-Thru Bioassay, 96 hour
	LC50	Bluegill sunfish	330 mg/l, Static Acute Bioassay, 96 hour
		Rainbow trout	150 mg/l, Static Acute Bioassay, 96 hour

12.2. Persistence and degradability

Testing has shown product to be readily biodegradable.

- COD (mgO2/g) 1120
- BOD 5 (mgO2/g) 503
- BOD 28 (mgO2/g) 503
- Closed Bottle Test (% Degradation in 28 days) 45
- Zahn-Wellens Test (% Degradation in 28 days) 94
- TOC (mg C/g) 304

12.3. Bioaccumulative potential

Not available.

Partition coefficient n-octanol/water (log Kow)

Diethanolamine	-1,43
Ethanolamine	-1,31

Bioconcentration factor (BCF)

Diethanolamine	3
Ethanolamine	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.



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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 UN2491
14.2. UN proper shipping name ETHANOLAMINE SOLUTION
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 UN2491
14.2. UN proper shipping name ETHANOLAMINE SOLUTION
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 UN2491
14.2. UN proper shipping name ETHANOLAMINE SOLUTION
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 UN2491
14.2. UN proper shipping name ETHANOLAMINE SOLUTION
14.3. Transport hazard class(es)
Class 8
Subsidiary risk -
14.4. Packing group III
14.5. Environmental hazards No.
ERG Code Not available.
14.6. Special precautions for user Not available.

IMDG

14.1. UN number UN2491



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14.2. UN proper shipping name	ETHANOLAMINE SOLUTION
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.

Restrictions on use

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

Not listed.



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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
- 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).
- 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

Information on evaluation method leading to the classification of mixture

Safety data sheets of raw materials.

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.
- H332 Harmful if inhaled.
- H335 May cause respiratory irritation.
- H361d Suspected of damaging the unborn child.
- H361f Suspected of damaging fertility.



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Revision information	H373 May cause damage to organs through prolonged or repeated exposure by ingestion. H412 Harmful to aquatic life with long lasting effects.
Training information	This document has undergone significant changes and should be reviewed in its entirety.
Based on EC Directive / Regulations	Provide training on safe handling while considering the type of application and exposure scenarios. (EC) No 1907/2006 (REACH) (EU) 2015/830 (EC) No 1272/2008 (EU) No 1357/2014
Further information	Correction in Section: 3,8,11