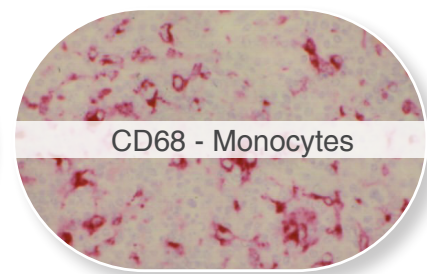
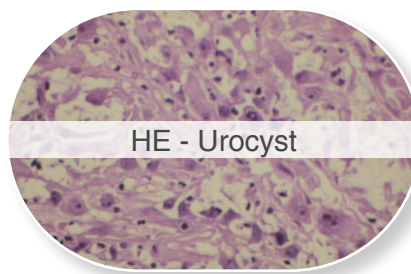
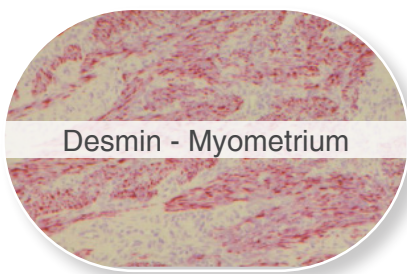


ProTaq[®] Clear

Xylene-Alternative



ProTaq[®] PARAmount

Embedding Medium

ProTaq[®] Clear

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Histological / Cytological Clearant

quartett offers ProTaq[®] Clear as an alternative to xylene. At present, xylene is used as an intermedium in a large quantity of histological and cytological laboratories. However, due to its toxic effects on humans, xylene has come under increasing criticism of users. From the point of view of preventive health protection it is essential to find an alternative to xylene.

Properties

- ▣ Saturated aliphatic hydrocarbon
- ▣ Percent of aromatics < 0.01 %
- ▣ Inflammable
- ▣ No hazard to health when exposed by inhalation or skin contact, only harmful if swallowed
- ▣ No hazard to environment and health
- ▣ Odourless
- ▣ Concentration of evaporation and saturation in the air is 6 x lower than values of xylene
- ▣ Comparable results to xylene
- ▣ Applicable in embedding and staining instruments
- ▣ Applicable in combination with other solvents and reagents
- ▣ Ensures excellent embedding, dewaxing and staining of sections
- ▣ Perfect embedding with the resinous mounting medium **ProTaq[®] PARAmount** and other mounting media

Applications

- ▣ Tissue clearing and embedding
- ▣ Histological, cytological and immunohistochemical staining procedures
- ▣ Cleaning agent

Package Sizes

- | | |
|------------------------|---------------------|
| ▣ 5 litres (canister) | Cat.-No.: 400301105 |
| ▣ 20 litres (canister) | Cat.-No.: 400301120 |
| ▣ 200 litres (drum) | Cat.-No.: 400301100 |

The 10 most frequently asked questions

1. Question: Do we have to change work techniques when we use ProTaq[®] Clear??
Answer: No, you don't. Each laboratory gained its practice experiences. You only modify these for use of ProTaq[®] Clear. ProTaq[®] Clear can be used for all embedding and staining procedures. However, you have to make sure that absolute ethanol is used in the last ethanol series prior to ProTaq[®] Clear application.
2. Question: What is the chemical nature of ProTaq[®] Clear?
Answer: ProTaq[®] Clear is an environmentally friendly, saturated, aliphatic hydrocarbon.
3. Question: Are there any drawbacks compared to xylene?
Answer: No, there are only advantages because ProTaq[®] Clear is in contrast to xylene a nonhazardous substance. There are no hazards to environment and no hazards to health when exposed by inhalation or skin contact. However, it needs to be declared as dangerous good due to the risk of ingestion. ProTaq[®] Clear is only harmful if swallowed.
4. Question: Does ProTaq[®] Clear smell unpleasant?
Answer: No, it does not. ProTaq[®] Clear is absolutely odourless and can be used without any restrictions.
5. Question: Does ProTaq[®] Clear attack plastics?
Answer: No, it does not.
6. Question: Does ProTaq[®] Clear have the same viscosity as xylene?
Answer: Yes, it has.
7. Question: Is it possible to use all artificial resins as embedding medium?
Answer: Yes, it is. ProTaq[®] PARAMount gives the best results.
8. Question: Does ProTaq[®] Clear affect the ability to cut tissues?
Answer: No, it does not.
9. Question: Do we need more time, e.g. for deparaffinizing?
Answer: ProTaq[®] Clear removes paraffin very fast and penetrates well. But you will need a little more time.
10. Question: Does it provide optimum brightening of tissue?
Answer: Yes, it does. Optical refraction index corresponds with that of xylene.

Note:

For embedding we recommend to use ProTaq[®] PARAMount, since ProTaq[®] Clear and ProTaq[®] PARAMount together have given best results.

Hazard Comparison Xylol / ProTaq[®] Clear

Hazards parameter	Xylol	ProTaq [®] Clear
Acute toxicity Ld 50 p.o., g/kg bw rat	4.3	> 5 ¹⁾
Late damage (e.g. carcinogenic, teratogenic)	Damage to CNS indicated.	No
R phrases	R 20/21 Harmful by inhalation and in contact with skin. R 38 Irritating to skin.	R 65 Harmful only, if swallowed. (See MSDS page 7)
Labelling according to GefStoffV (German Regulation on Dangerous Substances and Materials based on 67/548/EEC)	Xn, Xi readily flammable	Xn

¹⁾ Ethanol LD 100 p.o., 13 g/kg bw rat

Dating: 01.08.2001

ProTaq[®] Clear Survey

In 2005 in Japan a toxicological survey was performed to study the influence of ProTaq[®] Clear on rats. The results show the following after oral administration of 5 g/kg body weight:

- ❑ no cases of death in the group treated with a letal dose ProTaq[®] Clear of more than 5 g/kg body weight.
- ❑ no differrences in behaviour and clinical parameters comparing untreated controls and animals treated with ProTaq[®] Clear.
- ❑ no influence on body weight.
- ❑ no macroscopic anomalies of organs in animaly treates with ProTaq[®] Clear.

The results show that there is only little toxicity of ProTaq[®] Clear after oral administration.

Human Health Effects Resulting from Xylene

Xylene is mostly used as mixture of the structural isomers ortho-, meta- and para-xylene. It is a colourless, flammable, easily volatile liquid with aromatic odour. It causes strong optical refraction. It does not mix with water, but does mix with most organic solvents.

Animal studies on the toxicology of the isomer mixture have given the following results: LD 50 oral is 4.3 g/kg bw rat. On intraperitoneal application, LD 100 is 2.0 to 2.5 ml/kg bw rat. Epicutaneous application to rabbit skin causes irritations like hyperemia and increased permeability of capillaries, additional ultraviolet radiation causes edemas. On inhalative exposure for more than 4 hours, LD 50 is 6.350 ppm for rats. Increase of xylene concentration in the air from 580 to 9,900 ppm over 4 hours caused disturbed co-ordination and exhaustion. Disturbed and damaged reproductive system of rats was found after exposure to 5 and 500 mg/m³ xylene. Comparative results for mice were obtained after subchronic exposure to 100 mg/m³ and 50 to 5,000 mg/m³ for 3 hours per day over a period of 3 months. 500 mg/m³ for 20 hours are supposed to be embryotoxic to rats.

Acute xylene intoxication of humans immediately causes an unspecific effect on the central nervous system, i. e. in the beginning an uncharacteristic feeling of uneasiness and stomach trouble and on continued intoxication daze, dizziness and vomiting. The narcotic level is 4,000 to 8,000 ppm. Inhalative exposure causes irritation of the mucous membranes of the respiratory tract and possible pulmonary edemas. Repeated or intensive skin contact may cause blisters and dermatitis.

In case of chronic exposure, humans showed a change in the blood-picture and leucocytes dysfunctions. In addition, functional changes of the central nervous system and heart and blood circulation were reported. Indications of a teratogenic effect were found with women exposed to xylene (3rd to 16th week of pregnancy). Furthermore, an innate CNS defect of children has been reported. The assessment of the damage to embryos has not been finished.

So far there have been no studies on the carcinogenic effect of xylene on humans.

Toxicity data of xylene result in the following classification and exposure limits:

1. According to GefStoffV (German Regulation on Dangerous Substances and Materials based on 67/548/EEC) xylene has to be labelled as Xn (health hazard), R10 (flammable), R20/21 (harmful by inhalation, in contact with skin), R 38 (irritant to skin).
2. Maximum workplace exposure level (MAK) is 440 mg/m³ with the addition "can be absorbed through the skin".

Berlin, March 1998

Dr. sc. nat. Goedicke

References:

1. Koch, R.; Wagner, O. B.: Datenspeicher Umweltchemikalien, 2. Auflage, Weinheim VHC 1991
2. Verordnung zum Schutz vor gefährlichen Stoffen (Gefahrstoffverordnung) vom 10.11.93, Carl Heymanns Verlag, 8. Auflage '93
3. Konietzko, N.; Dupuis, H.: Handbuch der Arbeitsmedizin, Xylol. Landsberg/Lech ecomed 1989

Material Safety Data Sheet

1. Identification of the substance/mixture and of the company

1.1 Product identifier:

Trade name: ProTaq Clear
Catalogue number: 400301101/05/120/100

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

Reagent for use in laboratories

1.3 Details of the supplier of the safety data sheet

Supplier: quartett GmbH
Street: Schichauweg 16
Zip code/City: 12307 Berlin
Country: Germany

Tel.: +49 (0) 30 765925-0 Fax: +49 (0) 30 765925-55 E-Mail: j.gorczyza@quartett.com

1.4 Emergency telephone number

Telephone: 0172 3009371

2. Hazards identification

2.1 Classification of the substance or mixture

Classification according to regulation (EC) No. 1272/2008 [CLP]:
Aspiration hazard, category 1, H304
Flammable liquid category 3, H226

Classification according to 67/548/EWG or 1999/45/EG:
Danger symbol: Xn, R10, R53, R65, R66

2.2 Label elements

Labelling according to regulation (EC) No. 1272/2008
Hazard pictograms



Signal word:

Danger

Hazard statements:

H304 May be fatal if swallowed and enters airways.
H226 Flammable liquid and vapour.
EUH066 Repeated exposure may cause skin dryness or cracking.

Precautionary statements:

P303/P361/P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

Classification (67/548/EWG or 1999/45EG)

Symbol: Xn harmful

Risk phrases: R10 Flammable.
R53 May cause long-term adverse effects in the aquatic environment.

R65 Harmful: may cause lung damage if swallowed.
R66 Repeated exposures may cause skin dryness or cracking.

Safety phrases: S24/25/26-33-43-46 Avoid contact with skin and eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Take precautionary measures against static discharges. In case of fire, do not use water. If swallowed, seek medical advice immediately and show this container or label.

2.3 Other hazards

All chemicals are potentially dangerous. They should only by properly trained personnel be handled with due care.

3. Composition/information on ingredients

3.1 Substances

This product is a mixture.

3.2 Mixture

Composition/Information on ingredients

Hydrocarbon-mixture, aliphatic, C11-C13, EG-No.: 918-167-1, CAS-No.: 64741-65-7, Index-No.: 649-275-00-4

4. First aid measures

4.1 Description of first aid measures

General information:

Following inhalation: Fresh air, in case no breathing or irregular breathing, start artificial respiration or use respirator, seek medical advice.

Following skin contact: Rinse with plenty of water. Remove contaminated clothing. In case of symptoms, seek medical advice.

Following eye contact: Rinse with plenty of water for 10 min, whilst keeping the eyes open, seek medical advice.

Following ingestion: Rinse mouth with water. Try to induce vomiting, seek medical advice.

4.2 Most important symptoms and effects, both acute and delayed

Irritant effect

4.3 Indication of any immediate medical attention and special treatment needed

No information available.

5. Fire fighting measures

5.1 Extinguishing media

Suitable extinguishing media: Carbon dioxide, powder, foam, sand

Unsuitable extinguishing media: There are no restrictions.

5.2 Special hazards arising from the substance or mixture

Flammable, vapours heavier than air, vapour/air mixture is explosive. Take precautionary measures against static discharges, product may build up static charges.

5.3 Advice for fire fighters

Special protective equipment for fire fighters

Stay in dangerous zone only with self contained breath apparatus. Avoid skin contact by observe a safety distance or wearing appropriate protective clothing.

More information

Cool closed containers exposed to fire with water spray. Avoid getting fire fighter water into surface or groundwater.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid contact with the substance. Do not inhale vapour/aerosol. Provide well-ventilated workplace. Evacuate danger zone, following emergency plan, consult specialists.

6.2 Environmental precautions

Avoid release to soil, drains/surface and ground water.

6.3 Methods and material for containment and cleaning up

Absorb and discharge in sand or other absorption media. Wash with plenty of water.

6.4 Reference to other sections

Information on personal protective equipment see chapter 8.

Disposal information please see chapter 13.

7. Handling and storage

7.1 Precautions for safe handling

Observe label precautions.

Information about fire- and explosion protection:

Keep away from open flames, hot surfaces and sparks. Take precautionary measures against static charges.

7.2 Conditions for safe storage, including any incompatibilities

Keep away from heat and sparks. Keep container tightly closed, store at dry and aired place, at 15 - 25 °C.

7.3 Specific end uses

See chapter 1.2.

8. Exposure controls/personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.

8.2 Appropriate engineering controls

Technical measures and usage of appropriate working procedures shall prevail over the usage of personal protective equipment. See chapter 7.

8.3 Personal protective equipment

Select materials and equipment for physical protection depending on the concentration and volume of hazardous substances and the workplace involved.

8.3.1 Hygiene measures

Remove contaminated clothing immediately. Precautionary protection of skin. Wash hands and face after each use.

8.3.2 Eye/face protection

Protective glasses.

8.3.3 Hand protection

The protective gloves to be used must comply with the specifications of the EC directive 89/686/EEC and the resultant standard EN 374.

8.3.4 Body protection

Flame-retardant, antistatic protective clothing.

8.3.5 Respiratory protection

Use respiratory equipment in case of aerosol and nebulosity. Recommended filter type: filter A.

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer with a corresponding documentation.

8.3.6 Environmental exposure controls

Do not empty into drains. Risk of explosion.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state:	liquid
Colour:	colourless
Odour:	like hydrocarbons
Odour threshold:	No data available.

Safety relevant basic data

ph:	No data available.
Melting point:	< -50 °C
Boiling range:	160 - 200 °C
Flash point:	> 56 °C
Evaporation rate:	No data available.
Ignition temperature:	> 200 °C
Lower explosion limit:	No data available.
Upper explosion limit:	No data available.
Vapour pressure:	0.1 kPa
Vapour density:	No data available.
Density:	0.72 – 0.79 g/cm ³
Water solubility:	Insoluble in water, soluble in hexane and acetone.
Partition coefficient n-Octanol/water:	No data available.
Decomposition temperature:	No data available.
Viscosity dynamic:	No data available.
Explosive properties:	No data available.
Oxidizing conditions:	No data available.

9.2 Other safety information

No other data were identified.

10. Stability and reactivity

10.1 Reactivity

Vapour/air mixtures are explosive at intensive warming. Reaction occurs with strong oxidizing agents and halogens.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature). No decomposition in case of proper application.

10.3 Possibility of dangerous reactions

Violent reactions possible with: strong oxidizing agents, strong acids.

10.4 Conditions to avoid

Heating. A range of about 15 Kelvin below the flash point is critical.

10.5 Incompatible materials

Gum

10.6 Hazardous decomposition products

No data available.

11. Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity

LD50 rat: > 5000 mg/kg bw

Acute inhalative toxicity

Symptoms: mucosal irritations. Inhalation can cause oedemas in the respiratory tract.

Acute dermal toxicity

LD50 rat: > 3200 mg/kg bw

Skin corrosion/irritation

Prolonged skin contact may lead to degreasing and drying of skin and may cause brittle and chapped skin. Dermatitis.

Eye damage/irritation

May cause mild irritations.

Specific target organ toxicity (single exposure)

The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ toxicity (repeated exposure)

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Carcinogenicity

No data available.

Irritation to respiratory tract

Aspiration can cause oedemas of lungs.

11.2 Other information

Systemic effects: The absorption of large amounts is followed by nausea, vomiting, headaches, dizziness, tiredness, CNS disorders, and anaesthesia.

Further hazardous conditions can't be excluded. Please follow the usual instructions when dealing with chemicals.

12. Ecological information

12.1 Ecotoxicity

In case of proper application, there will be no ecological problems. Water hazard class 1, weak water hazard.

12.2 Persistence and degradability

Readily biodegradable.

12.3 Bioaccumulative potential

No data available.

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPbB assessment

No data available.

12.6 Other adverse effects

No data available.

13. Disposal considerations

Waste treatment methods

Do not handle chemical wastes as domestic waste. Disposal according to Kreislaufwirtschafts- und Abfallgesetz des Bundes (Federal Act on Recycling and Waste) and acts of the federal states. Leave chemicals in their original containers. Do not mix with other waste. Uncleaned containers have to be handled according to the product.

14. Transport information

14.1 Land transport (ADR/RID)

UN-No.:	3295
Proper shipping name:	HYDROCARBONS, LIQUID, N.O.S.
Class:	3 (F1) Flammable liquids
Packing group:	III

14.2 Sea transport (IMDG/GGV)

UN-No.:	3295
Proper shipping name:	HYDROCARBONS, LIQUID, N.O.S.
Class:	3
Packing group:	III

14.3 Air transport (ICAO/IATA)

UN-No.:	3295
Proper shipping name:	HYDROCARBONS, LIQUID, N.O.S.
Class:	3
Packing group:	III

15. Regulatory information

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

15.1.1 EU regulations

Restrictions on use: The employment limitations under the regulations to the protection from hazardous materials of young persons act are to be observed.

15.1.2 National regulations (Germany)

Störfallverordnung (Hazardous Incident Ordinance):	96/82/EC, Flammable, 6, Amount 1:5000 t, Amount 2:50.000 t
Lagerklasse (Storage category):	3
Wassergefährdungsklasse (water hazard class):	WGK 1, weak water hazard

15.2 Chemical Safety Assessment

No data available.

16. Other information

The above information is believed to be correct but does not purport to be allinclusive and shall be used only as a guide. Quartett GmbH is not responsible for any direct or indirect damages resulting from the use of this chemical.

Instruction for Use

ProTaq[®] Clear for normal use

Application

ProTaq[®] Clear can be used as a clearing agent in histological laboratory. The most important application areas are:

1. Tissue preparation
2. Deparaffination
3. Brightning of stained tissue and coverslipping
4. Cleaning and removing of paraffin- and oily material

On the next pages we offer a few using advices, but each laboratory should decide which working temperatures and times they need. Knowledges with the handling of other clearing agent can be useful as well.

1. Tissue preparation

ProTaq[®] Clear can be integrated unproblematically in manual and automated embedding processes. It might be useful to take 3 bathes for 60 seconds at room temperature in ProTaq[®] Clear after the last bath in absolute Ethanol. The heating of ProTaq[®] Clear to +35 °C decreases the penetration and it does not harm the tissue. An application under vacuum is possible, too. After the last ProTaq[®] Clear bath at least 2 bathes with warm liquid paraffin follow. In order to prevent an early dullness of ProTaq[®] Clear, you have to pay attention of a thorough decalcification in 3 bathes of waterless Ethanol. ProTaq[®] Clear should be renewed after 200 tissue processes depending on the tissue size and strength.

2. Deparaffination

Paraffin slices can be deparaffinated with ProTaq[®] Clear before the staining process. These times are valid for 3-6 µm thick slices. This time should be longered for thicker slices. Dry paraffin slices should be deparaffinated with 3 bathes in ProTaq[®] Clear. For each bath a time of 5-7 minutes should be chosen. The heating of ProTaq[®] Clear to +35 °C decreases the penetration and it does not harm the tissue or adhesion. Before the staining ProTaq[®] Clear must be rinsed thoroughly in 3 bathes of absolute Ethanol for 2 minutes each. The absolute Ethanol must be waterless. It has to be guaranteed, that ProTaq[®] Clear and the absolute Ethanol is waterless and in a longer run it stays waterless. Another irrigation can be done now. ProTaq[®] Clear should be renewed after 180 tissue processes. The use of ProTaq[®] Clear for deparaffination is very suitable for all histo- and cytological as well as for all immunohistological and histochemical staining.

3. Brightning of stained tissue and coverslipping

ProTaq[®] Clear has got a brilliant refraction index and therefore you can use it for all light microscopic samples. After the staining the tissue slices must be exactly decalcified. Directly before the brightning (in 2 bathes of ProTaq[®] Clear reach 3 minutes) it might be useful to applicate 3 steps of absolute Ethanol each 1 minute. The absolute Ethanol must be waterless. The slices can be directly covered out off ProTaq[®] Clear for prevention. For mounting we recommend ProTaq[®] PARAMount, an untoxic and odour neutral mounting medium. It is the best mounting medium for ProTaq[®] Clear. The use of other mounting media is not recommendable, because dullnesses and muddy effects can occur.

4. Cleaning and removing of paraffin- and oily material

ProTaq[®] Clear should be especially used for cleaning, because of its harmless characteristics and neutral odour. Paraffin residues can be easily removed of the working stations, when ProTaq[®] Clear has been put on a dry cloth. ProTaq[®] Clear is less aggressiv to several plastics, than comparable clearing agents. An evaluation should be done, with 1 drop of ProTaq[®] Clear on part of the plastic. Rests of paraffin could be easily removed from equipment in heated ProTaq[®] Clear bathes of +35 °C maximum.

ProTaq[®] Clear H & E Staining

ProTaq[®] Clear can be used for manual and automatic staining systems. Application areas are Histology and Cytology. The following procedure can be used as a guide for H&E staining.

Using ProTaq[®] Clear it is necessary to wash the sections in the beginning and in the end in 3 bathes of 100 % Ethanol.

1.	ProTaq [®] Clear	3 minutes
2.	ProTaq [®] Clear	3 minutes
3.	ProTaq [®] Clear	3 minutes
4.	100 % Ethanol	30 seconds
5.	100 % Ethanol	30 seconds
6.	100 % Ethanol	30 seconds
7.	95 % Ethanol	30 seconds
8.	Wash with tap water	30 seconds
9.	Gill 3 Hematoxylin	90 seconds
10.	3 % Acetic acid	20 seconds
11.	Wash with tap water	30 seconds
12.	Ammonia water	20 seconds
13.	Wash with tap water	30 seconds
14.	95 % Ethanol	30 seconds
15.	1 % Eosin	10 seconds
16.	95 % Ethanol	30 seconds
17.	100 % Ethanol	30 seconds
18.	100 % Ethanol	30 seconds
19.	100 % Ethanol	30 seconds
20.	ProTaq [®] Clear	30 seconds
21.	ProTaq [®] Clear	30 seconds
22.	ProTaq [®] Clear	Ende

ATTENTION: Water and moisture destroys ProTaq[®]Clear. Please work carefully.

ProTaq[®] Clear Papanicolaou manual staining

The following procedure can be used as a guide.

Sample Preparation

The samples must be fixed fresh and have to be treated carefully. Protect of drying out. Recommended fixation is 95 % Alcohol.

Staining:

- | | | |
|-----|---------------------------------|---------------------------|
| 1. | 80 % Ethanol | Dip 3 times or 10 seconds |
| 2. | 70 % Ethanol | Dip 3 times |
| 3. | 50 % Ethanol | Dip 3 times |
| 4. | Aqua dest. | Dip 3 times |
| 5. | Harris's Hematoxylin | 45 seconds to 4 minutes |
| 6. | Aqua dest. | Dip 3 times |
| 7. | 0.25 % Hydrochloric acid | Dip 1 time 1 to 2 seconds |
| 8. | Tap water | Dip 1 time |
| 9. | Running tap water | 6 minutes |
| 10. | 50 % Ethanol | Dip 3 times |
| 11. | 70 % Ethanol | Dip 3 times |
| 12. | 80 % Ethanol | Dip 3 times |
| 13. | 95 % Ethanol | Dip 3 times |
| 14. | Orange G6 | 90 seconds |
| 15. | 95 % Ethanol | Dip 3 times, carefully |
| 16. | 95 % Ethanol | Dip 3 times |
| 17. | EA50 | 90 seconds |
| 18. | 95 % Ethanol | Dip 3 times |
| 19. | 100 % Ethanol | Dip 3 times |
| 20. | 100 % Ethanol | Dip 3 times |
| 21. | 100 % Ethanol | 30 seconds |
| 22. | 100 % Ethanol | 30 seconds |
| | ProTaq [®] Clear (1:1) | |
| 23. | ProTaq [®] Clear | 30 seconds |
| 24. | ProTaq [®] Clear | 90 seconds |
| 25. | ProTaq [®] Clear | Coverslip |

ProTaq[®] Clear Papanicolaou automatic staining

The following procedure can be used as a guide.

Sample Preparation

The samples must be fixed fresh and have to be treated carefully. Protect of drying out. Recommended fixation is 95 % Alcohol.

Staining:

- | | | |
|-----|------------------------------------|-----------------------|
| 1. | 80 % Ethanol | 1 minute |
| 2. | 70 % Ethanol | 1 minute |
| 3. | 50 % Ethanol | 1 minute |
| 4. | Aqua dest. | 1 minute |
| 5. | Hematoxylin diluted in water (3:1) | 90 seconds |
| 6. | Aqua dest. | 1 minute |
| 7. | Aqua dest. | 1 minute |
| 8. | 0.25 % Hydrochloric acid | Dip 1 x 1 - 2 seconds |
| 9. | Tap water | 6 minutes |
| 10. | Aqua dest. | 1 minute |
| 11. | 70 % Ethanol | 1 minute |
| 12. | 80 % Ethanol | 1 minute |
| 13. | 95 % Ethanol | 1 minute |
| 14. | Orange G6 | 90 seconds |
| 15. | 95 % Ethanol | 1 minute |
| 16. | 95 % Ethanol | 1 minute |
| 17. | EA65 | 90 seconds |
| 18. | 95 % Ethanol | 1 minute |
| 19. | 100 % Ethanol | 1 minute |
| 20. | 100 % Ethanol | 1 minute |
| 21. | 100 % Ethanol | 1 minute |
| 22. | 100 % Ethanol | 1 minute |
| | ProTaq [®] Clear (1:1) | |
| 23. | ProTaq [®] Clear | 1 minute |
| 24. | ProTaq [®] Clear | 1 minute |
| 25. | ProTaq [®] Clear | Coverslip |

Histological / Cytological Mounting Medium

Properties

- ❑ Free of Xylene
- ❑ Free of Toluene
- ❑ no health hazard
- ❑ not yellowing
- ❑ optimum optical refraction
- ❑ dries in less than 10 minutes

Applications

- ❑ Histology
- ❑ Cytology

Package Sizes

- ❑ 500 ml

Cat.-No.: BP-167H

The 5 most frequently asked questions

1. Question: Do we have to use ProTaq[®] PARAmount in combination with ProTaq[®] Clear?
Answer: No, you do not have to. ProTaq[®] PARAmount is reliable with other intermediates. However, we recommend to use them together
2. Question: Does ProTaq[®] PARAmount dry fast?
Answer: Yes, embedded slides dry in less than 10 minutes.
3. Question: When is it possible to store away slides?
Answer: The same day.
4. Question: Does ProTaq[®] PARAmount contain toluene?
Answer: No, it does not. ProTaq[®] PARAmount is free from toluene.
5. Question: Does ProTaq[®] PARAmount contain xylene?
Answer: No, it does not. ProTaq[®] PARAmount is free from xylene.

Material Safety Data Sheet

1. Identification of the substance/mixture and of the company

1.1 Product identifier:

Trade name: ProTaq[®] PARAmount
Catalogue number: BP-167H / BP-167HG / BP-167HS

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

Reagent for use in laboratories

1.3 Details of the supplier of the safety data sheet

Supplier: quartett GmbH
Street: Schichauweg 16
Zip code/City: 12307 Berlin
Country: Germany

Tel.: +49 (0) 30 765925-0 Fax: +49 (0) 30 765925-55 E-Mail: j.gorczyza@quartett.com

1.4 Emergency telephone number

Telephone: 0172 3009371

2. Hazards identification

2.1 Classification of the substance or mixture

Classification according to regulation (EC) No. 1272/2008 [CLP]:
Flammable liquid, category 3, H226
Asp. Tox, category 1, H304
Skin Sens., category 1, H317

Classification according to 67/548/EWG or 1999/45/EG:
Danger symbol: F, R10; Xn, R65-43

2.2 Label elements

Labelling according to regulation (EC) No. 1272/2008
Hazard pictograms



Signal word:

Danger

Hazard statements:

H226 Flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H317 May cause an allergic skin reaction.

Precautionary statements:

P303/P361/P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

Classification (67/548/EWG or 1999/45EG)

Symbol: Xn harmful
F highly flammable

Risk phrases: R10 Flammable.
R43 May cause sensitisation by skin contact.
R65 Harmful: may cause lung damage, if swallowed.

Safety phrases: S24/25/26-33-43-46 Avoid contact with skin and eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Take precautionary measures against static discharges. In case of fire, do not use water. If swallowed, seek medical advice immediately and show this container or label.

2.3 Other hazards

All chemicals are potentially dangerous. They should only by properly trained personnel be handled with due care.

3. Composition/information on ingredients

3.1 Substances

This product is a mixture.

3.2 Mixture

Composition/Information on ingredients

Viscous solution. Polymeric acrylate > 30 %; saturated aliphatic hydrocarbons > 30 %

4. First aid measures

4.1 Description of first aid measures

General information:

Following inhalation: Fresh air, in case no breathing or irregular breathing, start artificial respiration or use respirator, seek medical advice.

Following skin contact: Rinse with plenty of water. Remove contaminated clothing. In case of symptoms, seek medical advice.

Following eye contact: Rinse with plenty of water for 10 min, whilst keeping the eyes open, seek medical advice.

Following ingestion: Rinse mouth with water. Try to induce vomiting, seek medical advice.

4.2 Most important symptoms and effects, both acute and delayed

Irritant effect

4.3 Indication of any immediate medical attention and special treatment needed

No information available.

5. Fire fighting measures

5.1 Extinguishing media

Suitable extinguishing media: Carbon dioxide, powder, foam, sand

Unsuitable extinguishing media: Water with full jet.

5.2 Special hazards arising from the substance or mixture

Flammable, vapours heavier than air, vapour/air mixture is explosive. Take precautionary measures against static discharges, product may build up static charges.

5.3 Advice for fire fighters

Special protective equipment for fire fighters

Stay in dangerous zone only with self contained breath apparatus. Avoid skin contact by observe a safety distance or wearing appropriate protective clothing.

More information

Cool closed containers exposed to fire with water spray. Avoid getting fire fighter water into surface or groundwater.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid contact with the substance. Do not inhale vapour/aerosol. Provide well-ventilated workplace. Evacuate danger zone, following emergency plan, consult specialists.

6.2 Environmental precautions

Avoid release to soil, drains/surface and ground water.

6.3 Methods and material for containment and cleaning up

Absorb and discharge in sand or other absorption media. Wash with plenty of water.

6.4 Reference to other sections

Information on personal protective equipment see chapter 8.
Disposal information please see chapter 13.

7. Handling and storage

7.1 Precautions for safe handling

Observe label precautions.

Information about fire- and explosion protection:

Keep away from open flames, hot surfaces and sparks. Take precautionary measures against static charges.

7.2 Conditions for safe storage, including any incompatibilities

Keep away from heat and sparks. Keep container tightly closed, store at dry and aired place, at 15 - 25 °C.

7.3 Specific end uses

See chapter 1.2.

8. Exposure controls/personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.

8.2 Appropriate engineering controls

Technical measures and usage of appropriate working procedures shall prevail over the usage of personal protective equipment. See chapter 7.

8.3 Personal protective equipment

Select materials and equipment for physical protection depending on the concentration and volume of hazardous substances and the workplace involved.

8.3.1 Hygiene measures

Remove contaminated clothing immediately. Precautionary protection of skin. Wash hands and face after each use.

8.3.2 Eye/face protection

Protective glasses.

8.3.3 Hand protection

The protective gloves to be used must comply with the specifications of the EC directive 89/686/EEC and the resultant standard EN 374.

8.3.4 Body protection

Flame-retardant, antistatic protective clothing.

8.3.5 Respiratory protection

Use respiratory equipment in case of aerosol and nebulosity. Recommended filter type: filter A. The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer with a corresponding documentation.

8.3.6 Environmental exposure controls

Do not empty into drains. Risk of explosion.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state:	liquid
Colour:	colourless
Odour:	like hydrocarbons
Odour threshold:	No data available.

Safety relevant basic data

ph:	No data available.
Melting point:	No data available.
Boiling range:	No data available.
Flash point:	No data available.
Evaporation rate:	No data available.
Ignition temperature:	No data available.
Lower explosion limit:	No data available.
Upper explosion limit:	No data available.
Vapour pressure:	No data available.
Vapour density:	No data available.
Density:	No data available.
Water solubility:	Insoluble in water, soluble in hexane and acetone.
Partition coefficient n-Octanol/water:	No data available.
Decomposition temperature:	No data available.
Viscosity dynamic:	No data available.
Explosive properties:	No data available.
Oxidizing conditions:	No data available.

9.2 Other safety information

No other data were identified.

10. Stability and reactivity

10.1 Reactivity

Vapour/air mixtures are explosive at intensive warming. Reaction occurs with strong oxidizing agents and halogens.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature). No decomposition in case of proper application.

10.3 Possibility of dangerous reactions

Violent reactions possible with: strong oxidizing agents, strong acids.

10.4 Conditions to avoid

Heating. A range of about 15 Kelvin below the flash point is critical.

10.5 Incompatible materials

Gum

10.6 Hazardous decomposition products

No data available.

111. Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity

LD50 rat: > 5000 mg/kg bw

Acute inhalative toxicity

LD50 rat: = 1600 ppm, 6h

Acute dermal toxicity

LD50 rat: > 3000 mg/kg bw

Skin corrosion/irritation

Irritant.

Eye damage/irritation

May cause mild irritations.

Specific target organ toxicity (single exposure)

The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ toxicity (repeated exposure)

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Carcinogenicity

No data available.

Irritation to respiratory tract

No data available.

11.2 Other information

Systemic effects: The absorption of large amounts is followed by nausea, vomiting, headaches, dizziness, tiredness, CNS disorders, and anaesthesia.

Further hazardous conditions can't be excluded. Please follow the usual instructions when dealing with chemicals.

12. Ecological information

12.1 Ecotoxicity

In case of proper application, there will be no ecological problems. Water hazard class 1, weak water hazard.

12.2 Persistence and degradability

No data available.

12.3 Bioaccumulative potential

No data available.

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPbB assessment

No data available.

12.6 Other adverse effects

No data available.

13. Disposal considerations

Waste treatment methods

Do not handle chemical wastes as domestic waste. Disposal according to Kreislaufwirtschafts- und Abfallgesetz des Bundes (Federal Act on Recycling and Waste) and acts of the federal states. Leave chemicals in their original containers. Do not mix with other waste. Uncleaned containers have to be handled according to the product.

14. Transport information

14.1 Land transport (ADR/RID)

UN-No.:	1866
Proper shipping name:	Resin solution, flammable
Class:	3 (F1) Flammable liquids
Packing group:	III

14.2 Sea transport (IMDG/GGV)

UN-No.:	1866
Proper shipping name:	Resin solution, flammable
Class:	3
Packing group:	III

14.3 Air transport (ICAO/IATA)

UN-No.:	1866
Proper shipping name:	Resin solution, flammable
Class:	3
Packing group:	III

15. Regulatory information

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

15.1.1 EU regulations

Restrictions on use: The employment limitations under the regulations to the protection from hazardous materials of young persons act are to be observed.

15.1.2 National regulations (Germany)

Wassergefährdungsklasse (water hazard class):	WGK 1, weak water hazard
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15.2 Chemical Safety Assessment

No data available.

16. Other information

The above information is believed to be correct but does not purport to be allinclusive and shall be used only as a guide. Quartett GmbH is not responsible for any direct or indirect damages resulting from the use of this chemical.