



Material Safety Data Sheet


MSDS/SDS Number: 00000405MSDS
Latest Revision Date: November 8, 2010
Revision: A

SECTION 1 IDENTIFICATION OF THE SUBSTANCE OR PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Name: Roccol Preservation Solution.
Catalogue Number(s): See Section 16.
Chemical Name: Aqueous solution of Glycerol, Quaternary Ammonium Compounds, benzyl-C12-16-alkyldimethyl, chlorides, and Ethanol.
Synonyms: None.
Intended Product Use: Preservation solution for ProstatTM UF Modules and Pellicon[®] 2 filter cassettes.
Manufacturer/Distributor: Millipore Corporation (Corporate Headquarters) Millipore S.A.S. (European Headquarters)
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SECTION 2 HAZARDS IDENTIFICATION

Globally Harmonized System of Classification and Labeling of Chemicals (GHS):

Symbol:  **Hazard Category:** 2A: Serious Eye Damage/Irritation
2: Skin Corrosion/Irritation

Signal Word: Warning

Hazard Statement: H315+H320: Causes skin and eye irritation.

GHS Precautionary Statements:

Prevention: P264: Wash hands thoroughly after handling.
P281: Use personal protective equipment as required.

Response: P302+P352: IF ON SKIN: Wash with plenty of soap and water.
P362: Take off contaminated clothing and wash before reuse.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several

minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308+P313: If exposed or concerned: Get medical advice/attention.

P337+P313: If eye irritation persists: Get medical advice/attention.

P332+P313: If skin irritation occurs: Get medical advice/attention.

Storage: P403+P233: Store in a well ventilated place. Keep container tightly closed.

Disposal: P501: Dispose of content/container in accordance with local regulations.

Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH):

Symbol:  **Symbol Letter:** Xi

Hazard: Irritant

Risk Phrase: R36/38: Irritating to eyes and skin.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Identification of Dangerous Components: This product contains the substances listed below, which are defined as dangerous substances or hazardous chemicals as defined in European Community Directives 67/548/EEC or 1999/45/EC, and Hazard Communication Standard 29 CFR 1910.1200.

Dangerous Component	EINECS or ELINCS No.	CAS No.	Content (weight percent)	EU Hazard Symbol Letters*†	R Phrases** †
Glycerol:	200-289-5	56-81-5	24 %	N/A	N/A
Quaternary Ammonium Compounds, benzyl-C12-16-alkyldimethyl, chlorides:	270-325-2	8001-54-5	0.1 %	N/A	N/A
Ethanol:	200-578-6	64-17-5	0.01 %	F	R11

Identification of Components Not Classified as Dangerous: This product contains the substances listed below, which are not defined as dangerous substances or hazardous chemicals as defined in European Community Directives 67/548/EEC or 1999/45/EC, and Hazard Communication Standard 29 CFR 1910.1200.

Non-Dangerous Component	EINECS or ELINCS No.	CAS No.	Content (weight percent)	EU Hazard Symbol Letters *	R Phrases**
Water:	231-791-2	7732-18-5	> 75 %	N/A	N/A

* Symbol letters and categories of danger: **T+** = Very toxic, **T** = Toxic, **C** = Corrosive, **Xn** = Harmful, **Xi** = Irritant, **E** = Explosive, **F+** = Extremely flammable, **F** = Highly flammable, **N** = Dangerous for the environment, **O** = Oxidising.

** The full text of each R phrase is listed in Section 15.

† Symbols letters and R Phrases are assigned to each dangerous component for the highest concentration range as defined in 67/548/EEC and 1999/45/EC.

SECTION 4 FIRST AID MEASURES

	Treatment Measures:	Symptoms of Exposure:
Contact with Eyes:	If the product contacts the eyes, promptly wash (irrigate) the eyes with large amounts of tepid water for at least 15 minutes, occasionally lifting the lower and upper lids. Seek medical attention immediately.	Possible eye irritation, redness and lacrimation.
Ingestion:	Seek medical attention immediately. Never give an unconscious person anything by mouth.	Possible gastrointestinal irritation causing nausea and vomiting.
Inhalation:	If a person inhales large amounts of the product move the exposed person to fresh air at once. If breathing is difficult or stops seek immediate medical attention.	Possible respiratory tract and mucous membrane irritation.
Skin Contact:	If the product contacts the skin, immediately flush the contaminated skin with mild soap and water. If this chemical penetrates clothing immediately remove the clothing and flush the skin with water. Seek medical attention immediately.	Possible skin irritation with prolonged or repeated skin exposure.

SECTION 5 FIRE FIGHTING MEASURES

Suitable Extinguishing Media:	Use extinguishing media appropriate for the surrounding fire. This product is compatible with commercially available extinguishing media.
Special Protective Equipment for Firefighters:	This product does not require the use of any additional fire fighting equipment beyond what is appropriate to the surrounding fire.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Wear chemical resistant boots, clothing, eye protection, and gloves to prevent skin contact (See Section 8).
Small Spills:	Identify the spilled material(s). Barricade the spill area and notify others in the surrounding areas. Control all sources of ignition if the substance is flammable. Don the appropriate personal protective equipment (See section 8). Control the movement of the spilled product (into drains, soil, across floors etc.) with absorbent spill materials. Collect contaminated spill material and place in container meeting appropriate U.N. packaging requirements. Decontaminate used equipment and affected spill area appropriately.
Large Spills:	In addition to small spill precautions, determine personnel evacuation distances. Notify appropriate authorities if necessary.

Environmental Precautions: Collect and dispose of contaminated materials according to international, federal, state and local regulations. Keep away from surface and ground water, drains, and soil.

SECTION 7 HANDLING AND STORAGE

Handling: Seek appropriate training to safely handle this product under normal conditions. Use the recommended personal protective equipment (See Section 8) to prevent chemical exposures. Wash hands with soap and water before eating, drinking, or touching common items (phone, computer, etc.) to prevent cross contamination. Use this product with adequate ventilation. See product technical data sheet for details.

Storage: See product technical data sheet for details.

Specific use: See product technical data sheet for details.

SECTION 8 EXPOSURE CONTROL AND PERSONAL PROTECTION

Exposure Limit Values:	OSHA PEL	NIOSH REL	ACGIH TLV	Other
Glycerol:	TWA 5 mg/m ³ (Respirable Fraction); TWA 15 mg/m ³ (Total Dust),	Not Listed	10 mg/m ³	See Below
Belgium:	TWA 10 mg/m ³ , MAR2002			
Finland:	TWA 20 mg/m ³ , JAN1999			
France:	VME 10 mg/m ³ , FEB2006			
Korea:	TWA 10 mg/m ³ (mist), 2006			
Mexico:	TWA 10 mg/m ³ (inhalable), 2004			
The Netherlands:	MAC-TGG 10 mg/m ³ , 2003			
New Zealand:	TWA 10 mg/m ³ (mist), JAN2002			
Switzerland:	MAK- week 50 mg/m ³ , KZG- week 100 mg/m ³ , DEC2006			
United Kingdom:	TWA 10 mg/m ³ , 2005			
Quaternary Ammonium Compounds, benzyl-C12-16-alkyldimethyl, chlorides:	Not Listed	Not Listed	Not Listed	None
Ethanol:	TWA 1,000 ppm (1,900 mg/m ³)	TWA 1,000 ppm (1,900 mg/m ³); IDLH 3,300 ppm (6,215 mg/m ³)	TWA 1,000 ppm (1,900 mg/m ³)	See Below
Australia:	TWA 1,000 ppm (1,880 mg/m ³), JUL2008			
Belgium:	TWA 1,000 ppm (1,907 mg/m ³), MAR2002			
Denmark:	TWA 1,000 ppm (1,900 mg/m ³), OCT 2002			
Finland:	TWA 1,000 ppm (1,900 mg/m ³), STEL 1250 ppm (2,400 mg/m ³), JAN1999			
France:	VME 1,000 ppm (1,900 mg/m ³), VLE 5000 ppm (9,500), FEB2006			
Germany:	MAK 960 mg/m ³ (500 mL/m ³), 2005			
Hungary:	TWA 1,900 mg/m ³ , STEL 7,600 mg/m ³ , SEP2000			

Korea:	TWA 1,000 ppm (1,900 mg/m ³), 2006
Mexico:	TWA 1,000 ppm (1,900 mg/m ³), 2004
The Netherlands:	MAC-TGG 1,000 mg/m ³ , 2003
New Zealand:	TWA 1,000 ppm (1,880 mg/m ³), JAN2002
Norway:	TWA 500 ppm (950 mg/m ³), JAN1999
The Phillipeians:	TWA 1,000 ppm (1,900 mg/m ³), JAN1993
Poland:	MAC (TWA) 1,000 mg/m ³ , MAC(STEL) 3,000 mg/m ³ , JAN1999
Russia:	TWA 1,000 mg/m ³ , STEL 2,000 mg/m ³ , JUN2003
Sweden:	TWA 500 ppm (1,000 mg/m ³); STEL 1,000 ppm (1,900 mg/m ³), JUN2005
Switzerland:	MAK- week 500 ppm (960 mg/m ³),KZG- week 1,000 ppm (1,920 mg/m ³), DEC2006
Thailand:	TWA 1,000 ppm (1,900 mg/m ³), JAN1993
Turkey:	TWA 1,000 ppm (1,900 mg/m ³), JAN1993
United Kingdom:	TWA 1,000 ppm (1,920 mg/m ³), 2005

	Normal Handling Conditions	Emergency Response Conditions
Engineering Controls:	General room ventilation is adequate for the use of this product.	Provide negative pressure ventilation.
Respiratory Protection	Use appropriate respiratory protection.	Use appropriate respiratory protection.
Eye Protection:	Safety glasses with side shields.	Chemical splash goggles or other face protection as appropriate.
Skin Protection:	Laboratory coat, adequate chemical-resistant gloves.	Chemically resistant boots, clothes, and impermeable gloves as appropriate.
Environmental Exposure Controls:	Not Available.	Not Available.
Other Equipment:	Safety shower, eyewash stations, and hand washing equipment should be available close to the work area as needed.	

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear Liquid
Odor:	None
Odor Threshold:	Not Available
pH:	5-6
Melting Point/Freezing Point:	Essentially that of Water
Initial Boiling Point and Boiling Range:	Essentially that of Water
Flash Point:	Not Available
Evaporation Rate, 20 °C:	Not Available
Flammability (Solid/Gas):	Not Available
Explosive Limits:	LEL: Not Available UEL: Not Available

Vapor Pressure:	Not Available
Vapor Density, 20 °C:	Not Available
Relative Density (Water = 1.0):	1.1-1.2
Solubility:	Soluble
Partition Coefficient (n-octanol/water):	Not Available
Auto Ignition Temperature (ASTM D1929):	Not Available
Decomposition Temperature:	Not Available
Oxidizing Properties:	None
Viscosity, Centipoise:	Not Available

SECTION 10 STABILITY AND REACTIVITY

Chemical Stability:	Product is stable under normal operating conditions and use as described in the product technical data sheet.
Conditions to Avoid:	See product technical data sheet for details.
Incompatible Materials to Avoid:	Strong acids or bases, strong oxidizers, and extreme temperatures.
Hazardous Decomposition Products:	Heating to decomposition temperature may produce carbon monoxide, carbon dioxide, nitrogen oxides.

SECTION 11 TOXICOLOGICAL INFORMATION

Toxicology Data: Toxicological information for this product as a whole does not exist, below is data for the individual components.

Glycerol: RTECS # MA8050000

Quaternary Ammonium Compounds, benzyl-C12-16-alkyldimethyl, chlorides: RTECS #BO3150000

Ethanol: RTECS# KQ6300000

	Toxicity Test	Exposure Route	Dose	Observed Effect
Acute Toxicity:				
Glycerol:	Lowest Published Toxic Dose (Human)	Oral	1,428 mg/kg	N/A ¹
	LD ₅₀ (Rat)	Oral	12,600 mg/kg	Behavioral: General anesthetic Behavioral: Muscle weakness Liver: Other changes ¹
Quaternary Ammonium Compounds, benzyl-C12-16-alkyldimethyl, chlorides:	LD _{Lo} (Rat)	Oral	250 mg/kg	Respiratory depression; Hypermotility, diarrhea ²

	LD ₅₀ (Rat)	Oral	240 mg/kg	Somnolence (general depressed activity) ;Nausea or vomiting ²
	LD ₅₀ (Rat)	Subcutaneous	400 mg/kg	Somnolence (general depressed activity) ²
Ethanol:	LC ₅₀ (Rat)	Inhalation	20,000 ppm/10 hour	N/A ³
	Lowest Published Lethal Dose (Man)	Oral	1,400 mg/kg	Behavioral: Sleep Behavioral: Headache Gastrointestinal: Nausea or vomiting ³
	LD ₅₀ (Rat)	Oral	7 gm/kg	N/A ³
	LD ₅₀ (Rat)	Intravenous	171 mg/kg	N/A ³
Skin Corrosion/Irritation:				
Glycerol:	Skin Irritation (Rabbit)	Skin	500 mg/24 hour	Mild ¹
Quaternary Ammonium Compounds, benzyl-C12-16-alkyldimethyl, chlorides:	Skin Irritation (Human)	Skin	3 %/24H	Mild ²
Ethanol:	Skin (Rabbit)	Skin	20 mg/24H	Moderate ³
Serious Eye Damage/Eye Irritation:				
Glycerol:	Eye Irritation (Rabbit)	Eye	500 mg/24 hour	Mild ¹
Quaternary Ammonium Compounds, benzyl-C12-16-alkyldimethyl, chlorides:	Eye Irritation (Human)	Eye	50 ug	Severe ²
Ethanol:	Eye (Rabbit)	Eye	500 mg	Severe ³
Respiratory or Skin Sensitization:	Not Available			
Germ Cell Mutagenicity:	Not Available			
Reproductive Toxicity:	Not Available			
STOST-Single Exposure:	Not Available			
STOST-Repeated Exposure:	Not Available			
Aspiration Hazard:	Not Available			
Carcinogenicity:	Carcinogenetic information for this product as a whole does not exist, below is data for the individual components.			
Research Agency:	OSHA:	NTP:	IARC:	
Glycerol:	Not Listed	Not Listed	Not Listed	
Quaternary Ammonium Compounds, benzyl-C12-16-alkyldimethyl, chlorides:	Not Listed	Not Listed	Not Listed	
Ethanol:	Not Listed	Not Listed	Not Listed	

SECTION 12 ECOLOGICAL INFORMATION

Ecotoxicity: Ecotoxicity information for this product as a whole does not exist, below is data for the individual components.

Glycerol: LC₅₀ Carassius Auratus 24 Hours 5,000,000 ug/L⁴
 LC₅₀ Leuciscus Idus Melanotus 48 Hours 10,000,000 ug/L⁵
 LC₅₀ Oncorhynchus Mykiss 96 Hours 54.0 ml/L⁶

Quaternary Ammonium Compounds, benzyl-C12-16-alkyldimethyl, chlorides: LC₅₀ Oryzias Latipes 24 Hours 7,000 ug/L⁷
 LC₅₀ Oryzias Latipes 48 Hours 6,900 ug/L⁷
 LC₅₀ Oryzias Latipes 72 Hours 6,300 ug/L⁷
 LC₅₀ Oryzias Latipes 96 Hours 6,100 ug/L⁷

Ethanol: LC₅₀ Pimephales Promelas 24 Hours 18,000,000 ug/L⁸
 LC₅₀ Pimephales Promelas 48 hours 13,480,000 ug/L⁸
 LC₅₀ Pimephales Promelas 72 Hours 13,480,000 ug/L⁸
 LC₅₀ Pimephales Promelas 96 Hours 13,480,000 ug/L⁸

Mobility:

Glycerol: Terrestrial Fate: If released to soil, glycerin is expected to undergo rapid biodegradation under aerobic conditions. Biodegradation under anaerobic conditions is also expected to occur. Based on an experimental log octanol/water partition coefficient of -1.76 and its water solubility, 1,220,000 mg/l at 5°C, soil adsorption coefficients for glycerin can be estimated at 3 and 2, respectively, using regression-derived equations. The magnitude of these values indicate that glycerin will display very high mobility in soil. Based on an estimated Henry's Law constant of 1.75X10+11 atm cu-m/mol and vapor pressure, 1.58X10-4 mm Hg at 25°C glycerin is not expected to significantly volatilize from wither moist or dry soil to the atmosphere.⁹

Aquatic Fate: If released to water, glycerin is expected to rapidly degrade under aerobic conditions. Degradation is also likely in seawater and under anaerobic conditions. Based on an experimental log octanol/water partition coefficient of -1.76 and its water solubility, 1,220,000 mg/l at 5°C, bioconcentration factors for glycerin can be estimated at 3 and 0.2, respectively, using regression-derived equations. The magnitude of these values indicate that bioconcentration in fish and aquatic organisms is not likely to occur to a significant extent. Estimated soil adsorption coefficients of 2 and 3 indicated that adsorption to sediment and suspended organic matter will not be important. Based on an estimated Henry's Law constant of 1.75X10+11 atm cu-m/mol, volatilization of glycerin from water will be slower than for water itself.⁹

Atmospheric Fate: If released to the atmosphere, glycerin may undergo a gas-phase oxidation with photochemically produced hydroxyl radicals. An estimated rate constant for this reaction of 1.7X10-11 cu- cm/molec-sec at 25°C translates to an atmospheric half-life of 33 hrs using an average atmospheric hydroxyl radical concn of 5X10+5 molec/cu-cm. The water solubility of glycerin, 1,220,000 mg/l at 5°C, indicates that it may also undergo atmospheric removal by wet deposition processes.⁹

Ethanol: Terrestrial Fate: Based on a classification scheme, an estimated Koc value of 1, determined from a structure estimation method, indicates that ethanol is expected to have very high mobility in soil. Volatilization of ethanol from moist soil surfaces is expected to be an important fate process given a Henry's Law constant of 5X10-6 atm-cu m/mole. The potential for volatilization of ethanol from dry soil surfaces may exist based upon an extrapolated vapor pressure of 59.3 mm Hg. Biodegradation is expected to be an important fate process for ethanol based on half-lives on the order of a few days for ethanol in sandy

soil/groundwater microcosms.¹⁰

Aquatic Fate: Based on a classification scheme, an estimated Koc value of 1, determined from a structure estimation method, indicates that ethanol is not expected to adsorb to suspended solids and sediment. Volatilization from water surfaces is expected based upon a Henry's Law constant of 5×10^{-6} atm-cu m/mole. Using this Henry's Law constant and an estimation method, volatilization half-lives for a model river and model lake are 3 and 39 days, respectively. According to a classification scheme, an estimated BCF 3, from a log Kow of -0.31 and a regression-derived equation, suggests bioconcentration in aquatic organisms is low. Hydrolysis and photolysis in sunlit surface waters is not expected to be an important environmental fate process for ethanol since this compound lacks functional groups that hydrolyze or absorb light under environmentally relevant conditions. Ethanol was degraded with half-lives on the order of a few days in aquatic studies conducted using microcosms constructed with a low organic sandy soil and groundwater, indicating it is unlikely to be persistent in aquatic environments.¹⁰

Atmospheric Fate: According to a model of gas/particle partitioning of semivolatile organic compounds in the atmosphere, ethanol, which has an extrapolated vapor pressure of 59.3 mm Hg at 25°C, is expected to exist solely as a vapor in the ambient atmosphere. Vapor-phase ethanol is degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 5 days, calculated from its rate constant of 3.3×10^{-12} cu cm/molecule-sec at 25°C.¹⁰

Persistence and Degradation:

- Glycerol:** Environmental Abiotic Degradation: An estimated rate constant for the vapor-phase reaction of glycerin with photochemically produced hydroxyl radicals of 1.7×10^{-11} cu cm/molec-sec at 25°C translates to an atmospheric half-life of 33 hr using an average atmospheric hydroxyl radical concentration of 5×10^{-5} molec/cu cm.⁹
- Ethanol:** Aerobic: Ethanol was shown to biodegrade under aerobic conditions in various screening tests using different types of inocula and incubation periods. 5 day theoretical BOD values range from 37% - 86%. Biodegradation of 3, 7, and 10 mg/L ethanol with filtered sewage seed in fresh water resulted in a 74% theoretical BOD in 5 days and 84% in 20 days; in salt water 45% of the theoretical BOD was reached in 5 days and 75% was reached in 20 days. Formaldehyde and acetic acid are products of biodegradation by a soil inoculum. Ethanol present at 100 mg/L, achieved 89% of its theoretical BOD using an activated sludge inoculum at 30 mg/L and the Japanese MITI test. Ethanol was rapidly degraded in aerobic microcosms prepared from low organic (0.2% organic carbon) sandy aquifer material obtained from Jurere Beach, Brazil. Microcosms were prepared with 20 grams of aquifer material and 50 mL of groundwater (pH 5.2). At a starting concentration of 100 mg/L, ethanol had half-lives of approximately 3 days in samples prepared with 20 mg/L of either benzene, toluene or o-xylene under aerobic conditions.¹⁰
- Anaerobic: Anaerobic degradation (thermophilic digestion, 54°C) of ethanol (5 ml of a 5% aqueous ethanol solution) produced approx 1000 ml gas/g sample using seed which had been prepared in a synthetic medium. Ethanol was rapidly degraded in anaerobic microcosms prepared from low organic (0.2% organic carbon) sandy aquifer material obtained from Jurere Beach, Brazil. Microcosms were prepared with 20 grams of aquifer material and 50 ml of groundwater (pH 5.2). At a starting concentration of 100 mg/L, ethanol had a half-life of approximately 1.5 days under denitrifying conditions and about 5 days under iron-reducing conditions.¹⁰
- Environmental Abiotic Degradation: The rate constant for the vapor-phase reaction of ethanol with photochemically-produced hydroxyl radicals has been measured as 3.3×10^{-12} cu cm/molecule-sec at 25°C. This corresponds to an atmospheric half-life of about 5 days at an atmospheric concentration of 5×10^5 hydroxyl radicals per cu cm. Ethanol is not expected to undergo hydrolysis in the environment due to the lack of hydrolyzable functional groups nor to directly photolyze due to the lack of absorption in the

environmental UV spectrum (>290 nm).¹⁰

Bio Accumulative Potential:

Glycerol: Based on an experimental log octanol/water partition coefficient of -1.76 and its water solubility, 1,220,000 mg/l at 5°C, bioconcentration factors for glycerin can be estimated at 3 and 0.2, respectively, using regression-derived equations. The magnitude of these values indicate that bioconcentration of glycerin in fish and aquatic organisms will not be significant.⁹

Ethanol: An estimated BCF of 3 was calculated for ethanol, using a log Kow of -0.31 and a regression-derived equation. According to a classification scheme, this BCF suggests the potential for bioconcentration in aquatic organisms is low.¹⁰

Results of PBT Assessment: Not Available.

Other Adverse Effects: None Known.

SECTION 13 DISPOSAL INFORMATION

Substance: Dispose of unused contents in accordance with international, federal, state, and local regulations.

Contaminated Packaging: Dispose of container in accordance with international, federal, state and local requirements.

SECTION 14 TRANSPORTATION INFORMATION

UN Number: Not Listed.

Class: Not Listed.

Proper Shipping Name: Not Listed.

Packing Group: Not Listed.

Marine Pollutant: Not Listed.

Other Applicable Information: None.

SECTION 15 REGULATORY INFORMATION

Australia: Hazchem Code: Not Listed.

Poisons Schedule Number: Not Listed.

California: Proposition 65 Listed: Not Listed.

Canada: WHMIS: D2B.

European Union: REACH: Chemical Safety Assessment for the substance or substances in the preparation not required.

Substances of Very High Concern (SVHC) – January 13, 2010: This product does not contain SVHC's in concentrations above 0.1% weight/weight.

Category of Danger: F: Highly Flammable.
Xi: Irritant.

Risk Phrases: R11: Highly Flammable.
R36/38: Irritating to eyes and skin.

Safety Phrases: S7/9: Keep container tightly closed and in a well-ventilated place.
S20/21: When using do not eat, drink or smoke.
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S27/28: After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of soap and tepid water.
S29/35: Do not empty into drains; dispose of this material and its container in a safe way.
S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.
S45: In case of accident or if you feel unwell, seek medical advice immediately

OECD/High Production Volume (HPV) Chemicals: Glycerol, Ethanol and Water.

RoHS: This product does not contain RoHS listed substances in concentrations above the established thresholds.

Japan: Poisonous and Deleterious Substances Control Law: Not Listed.

SECTION 16 ADDITIONAL INFORMATION

Product Number: Product Name:

CDUF002TT	Prep/Scale Spiral Wound TFF-2 Module PTTK 30 kDa 0.23 m ²
P2B005A05	Pellicon 2 Cassette Ultrafiltration Module Biomax-5 A 0.5 m ²
P2B100A05	Pellicon 2 Cassette Ultrafiltration Module Biomax-100 A 0.5 m ²
SK1P006W6	Pellicon 2 Cassette Ultrafiltration Module Biomax-30 C 0.5 m ²
P2B010A05	Pellicon 2 Cassette Ultrafiltration Module Biomax-10 A 0.5 m ²
P2B030A05	Pellicon 2 Cassette Ultrafiltration Module Biomax-30 A 0.5 m ²
P2B500C05	Pellicon 2 Cassette Ultrafiltration Module Biomax-500 C 0.5 m ²
P2B100C05	Pellicon 2 Cassette Ultrafiltration Module Biomax-100 C 0.5 m ²
P2B300C05	Pellicon 2 Cassette Ultrafiltration Module Biomax-300 C 0.5 m ²
P2B050C05	Pellicon 2 Cassette Ultrafiltration Module Biomax-50 C 0.5 m ²
P2B01MC05	Pellicon 2 Cassette Ultrafiltration Module Biomax-1000 C 0.5 m ²
P2B008A05	Pellicon 2 Cassette Ultrafiltration Module Biomax-8 A 0.5 m ²
P2PLACC05	Pellicon 2 Cassette Ultrafiltration Module PLAC C 0.5 m ²
P2B050A05	Pellicon 2 Cassette Ultrafiltration Module Biomax-50 A 0.5 m ²
P2PLBCC05	Pellicon 2 Cassette Ultrafiltration Module PLBC C 0.5 m ²
P2C01MC05	Pellicon 2 Cassette Ultrafiltration Module PLCXK C 0.5 m ²
P2B100V05	Pellicon 2 Cassette Ultrafiltration Module Biomax-100 V 0.5 m ²
P2HVMPC05	Pellicon 2 Cassette Filter Module HVMP 0.45 µm C 0.5 m ²

P2B01MV05	Pellicon 2 Cassette Ultrafiltration Module Biomax-1000 V 0.5 m ²
P2B030V05	Pellicon 2 Cassette Ultrafiltration Module Biomax-30 V 0.5 m ²
P2DVPPC05	Pellicon 2 Cassette Filter Module DVPP 0.65 µm C 0.5 m ²
P2C005C05	Pellicon 2 Cassette Ultrafiltration Module PLCCC C 0.5 m ²
P2C100C05	Pellicon 2 Cassette Ultrafiltration Module PLCHK C 0.5 m ²
P2PLBCV05	Pellicon 2 Cassette Ultrafiltration Module PLBC V 0.5 m ²
P2B300V05	Pellicon 2 Cassette Ultrafiltration Module Biomax-300 V 0.5 m ²
P2C300C05	Pellicon 2 Cassette Ultrafiltration Module PLCMK C 0.5 m ²
P2B500V05	Pellicon 2 Cassette Ultrafiltration Module Biomax-500 V 0.5 m ²
P2GVPPC05	Pellicon 2 Cassette Filter Module GVPP 0.22 µm C 0.5 m ²
P2C030C05	Pellicon 2 Cassette Ultrafiltration Module PLCTK C 0.5 m ²
P2VVPPC05	Pellicon 2 Cassette Filter Module VVPP 0.1 µm C 0.5 m ²
P2B010V05	Pellicon 2 Cassette Ultrafiltration Module Biomax-10 V 0.5 m ²
P2B008V05	Pellicon 2 Cassette Ultrafiltration Module Biomax-8 V 0.5 m ²
P2C010C05	Pellicon 2 Cassette Ultrafiltration Module PLCGC C 0.5 m ²
P2B005V05	Pellicon 2 Cassette Ultrafiltration Module Biomax-5 V 0.5 m ²
P2PLACV05	Pellicon 2 Cassette Ultrafiltration Module PLAC V 0.5 m ²
P2B050V05	Pellicon 2 Cassette Ultrafiltration Module Biomax-50 V 0.5 m ²
P2DVPPV05	Pellicon 2 Cassette Filter Module DVPP 0.65 µm V 0.5 m ²
P2C005V05	Pellicon 2 Cassette Ultrafiltration Module PLCCC V 0.5 m ²
P2C010V05	Pellicon 2 Cassette Ultrafiltration Module PLCGC V 0.5 m ²
P2C030V05	Pellicon 2 Cassette Ultrafiltration Module PLCTK V 0.5 m ²
P2HVMPV05	Pellicon 2 Cassette Filter Module HVMP 0.45 µm V 0.5 m ²
P2C01MV05	Pellicon 2 Cassette Ultrafiltration Module PLCXK V 0.5 m ²
P2C300V05	Pellicon 2 Cassette Ultrafiltration Module PLCMK V 0.5 m ²
P2C100V05	Pellicon 2 Cassette Ultrafiltration Module PLCHK V 0.5 m ²
P2VVPPV05	Pellicon 2 Cassette Filter Module VVPP 0.1 µm V 0.5 m ²
P2GVPPV05	Pellicon 2 Cassette Filter Module GVPP 0.22 µm V 0.5 m ²
P2C030C25	Pellicon 2 Maxi Ultrafiltration Module PLCTK C 2.5 m ²
P2C010C25	Pellicon 2 Maxi Ultrafiltration Module PLCGC C 2.5 m ²
P2C005C25	Pellicon 2 Maxi Ultrafiltration Module PLCCC C 2.5 m ²
P2B050C25	Pellicon 2 Maxi Ultrafiltration Module Biomax-50 C 2.5 m ²
SK2P064E0	Prostak Ultrafiltration Module PZHK 200 kDa 0.33 m ²
SK2RB30A1	Prostak Ultrafiltration Module PZHK 200 kDa OC 1.7 m ²
SK2P063E0	Prostak Ultrafiltration Module PZHK 200 kDa 0.17 m ²
SK2P065E0	Prostak Ultrafiltration Module PZHK 200 kDa 0.84 m ²
SK2P132E1	Prostak Ultrafiltration Module PLAC 1 kDa 0.39 m ²
SK2P133E1	Prostak Ultrafiltration Module PLAC 1 kDa 1.9 m ²
SK2P628E0	Prostak Ultrafiltration Module PLAC 1 kDa 0.93 m ²
P2C010C05HC	P2 PLCGC HI COMPR C 5 SQ FT 5000/5000 HC
P2C030C25HC	P2 PLCTK HI COMPR C 25 SQ FT 5000/5000 HC
P2C010C25HC	P2 PLCGC HI COMPR C 25 SQ FT 5000/5000 HC

P2C005C25HC P2 PLCCC HI COMPR C 25 SQ FT 5000/5000 HC
 SK2P138E0 PSLHSP101 PROSTAK UF 10ST 1EA
 SK2P804F1 PSHSAT201 ALBUMIN PSK UF
 SK2P001E1 PSLGSP201 PLGC PROSTACK 20
 SK2P001W4 PSK UF PLBC 20FT2 1PK
 SK2P485E0 PSLHSP201 PLHK 20FT2 1PK
 SK2P483E0 PSLTSP201 PLTK 20FT2 1PK
 SK2P139E0 PSLHSP041 PROSTAK UF4 STA
 SK2P128E1 PSTMSP041 PTMK 4.0 FT SQ
 SK2P129E1 PSTMSP101 PTMK 10ST
 SK2P558E0 PSTHSP201 PTHK 20 STK
 SK2P940E9 PSTGSP201 1 EA
 SK2P130E1 PSTMSP201 PTMK 20FT SQ
 SK2P135E1 PSLCSP201 PLCC 20FT SQ
 SK2P203W2 PSLBSP101 PLBC 10 STK
 SK2P131E1 PSTTSP201 PTTK 20FT SQ
 PSLCSP041 PROSTAK PLCC 4 STK
 PSLCSP101 PROSTAK UF PLCC 10 STK
 PSTTSP101 PROSTAK UF MOD PTTK 10 FT2
 PSTTSP041 PROSTAK UF MOD PTTK 04 FT2
 PSLTSP101 PROSTAK UF PLTK 10 ST
 PSLTSP041 PROSTAK UF PLTK 4 STK
 PSTGSP041 PROSTAK UF PTGC 4 FTSQ
 PSLGSP041 PROSTAK UF PLGC 4 SQFT
 PSTGSP101 PROSTAK UF PTGC 10 FTSQ
 PSLGSP101 PROSTAK UF PLGC 10 SQFT
 PSTHSP041 PROSTAK UF MOD PTHK 04 FT2

Training Advice: Seek effective chemical handling training to reduce the hazards associated with this product prior to use.

Technical Contact: <http://www.millipore.com/support>

Abbreviations Used

ACGIH	American Conference of Government Industrial Hygienists
ADR	European agreement on the international carriage of dangerous goods on road
CAS	Chemical Abstract Service
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EPA	United States Environmental Protection Agency
IARC	International Agency for Research in Cancer.
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMDG	Regulations regarding the transportation of dangerous goods on ocean-going vessels issued by the International Maritime Organization.
LC ₅₀	Lethal Concentration 50% is the concentration of a chemical which kills 50% of a sample population

LD ₅₀	Lethal Dose 50% is the dose of a chemical which kills 50% of a sample population.
LDLo	Lowest observed lethal dose
LEL	Lower Explosive Limit
MSFU	Manufacture, Formulation, Supply and Use (Section 13)
NIOSH	National Institute of Occupational Safety and Health (US)
NTP	National Toxicology Program (US)
OSHA	United States Occupational Safety and Health Administration
RID	International regulations concerning the international carriage of dangerous goods by rail.
RTECS	Registry of Toxic Effects of Chemical Substances (US)
STOST	Specific Target Organ Systemic Toxicity
UEL	Upper Explosive Limit
WHMIS	Workplace Hazardous Materials Information System (Canada)

This safety data sheet has been prepared to comply with the requirements of the European Union regulation on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) 1906/2006 and ANSI standard Z400.1-1998.

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¹ Centers for Disease Control and Prevention, 1600 Clifton Rd, Atlanta, GA 30333, USA, National Institute for Occupational Health and Safety (NIOSH), Registry of Toxic Effects of Chemical Substances (RTECS) File #MA8050000, 2009

² Centers for Disease Control and Prevention, 1600 Clifton Rd, Atlanta, GA 30333, USA, National Institute for Occupational Health and Safety (NIOSH), Registry of Toxic Effects of Chemical Substances (RTECS) File #BO3150000, 2009

³ Centers for Disease Control and Prevention, 1600 Clifton Rd, Atlanta, GA 30333, USA, National Institute for Occupational Health and Safety (NIOSH) Registry of Toxic Effects of Chemical Substances (RTECS) File #KQ6300000, 2009.

⁴ Bridie, A.L., C.J.M. Wolff, and M. Winter, The Acute Toxicity of Some Petrochemicals to Goldfish, Water Res. 13(7):623-626 (OECDG Data File), 1979.

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⁶ Mayer, F.L.Jr., and M.R. Ellersieck, Manual of Acute Toxicity: Interpretation and Data Base for 410 Chemicals and 66 Species of Freshwater Animals, Resour.Publ.No.160, U.S.Dep.Interior, Fish Wildl.Serv., Washington, DC :505 p. (USGS Data File), 1986.

⁷ Canton, J.H., and E.A.M. Mathijssen-Spiekman, Comparative Short-Term Research with Water-Organisms to Determine the Acute Toxicity of a Number of Biocides, Rep.No.668115-001, Natl.Inst.Public Health Environ.Hyg. :6 p.(DUT), 1983.

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⁹ <http://toxnet.nlm.nih.gov/cgi-bin/sis/search/r?dbs+hsdb:@term+@rn+@rel+56-81-5>, U.S. National Library of Medicine, 8600 Rockville Pike, Bethesda, MD 20894, 2009.

¹⁰ <http://toxnet.nlm.nih.gov/cgi-bin/sis/search/r?dbs+hsdb:@term+@rn+@rel+64-17-5>, U.S. National Library of Medicine, 8600 Rockville Pike, Bethesda, MD 20894, 2009.