



Material Safety Data Sheet


MSDS/SDS Number: 00000108MSDS
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Revision: A

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

Product Name: 20% Tween 20.
Catalogue Number(s): See Section 16.
Chemical Name: Aqueous solution of Sorbitan Monolaurate, Ethoxylated.
Synonyms: Tween 20, Polyoxyethylene sorbitan monolaurate, Polysorbate 20, Polyoxyethylene (20) sorbitan monolaurate, Peg-20 sorbitan laurate, Sorbitan, monododecanoate, poly(oxy-1,2-ethanediyl) derivs.
Intended Product Use: Intended for research use only.
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/Eye 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: P308+P313: If exposed or concerned: Get medical advice/attention.
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.

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** †
Sorbitan Monolaurate, Ethoxylated:	500-018-3	9005-64-5	20%	N/A	N/A

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	80%	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 and dermatitis with 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
Sorbitan Monolaurate, Ethoxylated:	Not Listed	Not Listed	Not Listed	None

	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:	Slightly Yellow to Clear Colorless Liquid	
Odor:	None	
Odor Threshold:	None	
pH:	9.8 - 10.2	
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):	1.05 - 1.10	
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: When heated to decomposition this product may produce carbon monoxide, carbon dioxide, and 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.
Sorbitan Monolaurate, Ethoxylated: RTECS #TR7400000

	Toxicity Test	Exposure Route	Dose	Observed Effect
Acute Toxicity:				
Sorbitan Monolaurate, Ethoxylated:	LD ₅₀ (Rat)	Oral	36,700 uL/kg	N/A ¹
	LD ₅₀ (Mouse)	Oral	> 33,000 mg/kg	N/A ¹
	LD ₅₀ (Rat)	Intravenous	770 mg/kg	N/A ¹
	LD ₅₀ (Rat)	Intraperitoneal	3,850 mg/kg	N/A ¹
Skin Corrosion/Irritation:				
Sorbitan Monolaurate, Ethoxylated:	Skin Irritation (Human)	Skin	15 mg/3D	Mild ¹
Serious Eye Damage/Eye Irritation: Not Available				
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:
Sorbitan Monolaurate, Ethoxylated:	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.

Sorbitan Monolaurate, Ethoxylated: LC₅₀ Poecilia Reticulata 24 Hours 350,000 ug/L²
No Response Chasmichthys Dolichognathus 15 Minutes 2,000 ug/L³
No Response Oryzias Latipes 15 minutes 10,000 ug/L³
No Response Pagrus Major 15 minutes 20,000 ug/L³

Mobility: Not Available.

Persistence and Degradation: Not Available.

Bio Accumulative Potential: Not Available.

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:	Xi: Irritant.
	Risk Phrases:	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:	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:
20-246	20% Tween 20
Component of Kit #:	Product Name:
17-327	H2A.X Phosphorylation Assay Kit (Chemiluminescence Detection)
17-327RF	H2A.X Phosphorylation Assay Kit (Chemiluminescence Detection) (2-8°C)
17-376	Nitrotyrosine ELISA
17-376RF	Nitrotyrosine ELISA (2-8°C)
17-480	Phospho-FAK (Tyr397) STAR ELISA Kit
17-480C	STAR phospho-FAK(Tyr397) ELISA Kit (-80°C)
17-480C-1	STAR phospho-FAK(Tyr397) ELISA Kit (2-8°C)
17-490	ErbB2 (Tyr1248) Dual Detect CELISA Assay Kit (Fluorogenic Detection)
17-491	ATF2 (Thr69/71) Dual Detect CELISA Assay Kit (Fluorogenic Detection)
17-497	Ras Activation ELISA ASSAY Kit

17-497RF	Ras Activation ELISA ASSAY Kit (-20°C)
17-720	H2A.X (Ser139) Dual Detect CELISA ASSAY Kit (Fluorogenic Detection)
17-10006	Nitrotyrosine ELISA
17-10006-1	Nitrotyrosine ELISA (2-8°C)
CSA001	Rho-associated Kinase (ROCK) Activity Assay
CSA001-1	Rho-associated Kinase (ROCK) Activity Assay (2-8°C)

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 #TR7400000, 2009.

² Yarzhombek, A.A., A.E. Mikulin, and A.N. Zhdanova, Toxicity of Substances in Relation to Form of Exposure (Toksichnost Vestichestv diya ryb v Zavisimosti ot Sposoba Vozdejstviya), J.Ichthyol / Vopr.Ikhtiol.31(3):496-502(RUS) 31(7):99-106, 1991.

³ Umezu, T., Saponins and Surfactants Increase Water Flux in Fish Gills, Bull.Jpn.Soc.Sci.Fish. (Nippon Suisan Gakkaishi) 57(10):1891-1896, 1991.