1. Identification

Production Name: Polysorbate 20

Catalog Number: T046

Company: Caisson Laboratories

Address: 836 South 100 East, Smithfield UT 84335

Telephone: 435.755.7615

Fax: 435.755.7617

Emergency Contact: CHEMTREC 800.424.9300 (703.527.3887)

Recommended Use: For research and laboratory use only.

Restrictions on Use: This product is intended for research and laboratory use only. This product is not to be used as human or animal therapeutics, cosmetics, pesticidal products, food additives, or household chemicals.

2. Hazards Identification

Classification of the Substance or Mixture

GHS Classification: Not a hazardous substance or mixture

GHS Label Elements, Including Precautionary Statements

Signal Word: Not Hazardous

Hazard Statements:

Not a hazardous substance or mixture

Precautionary Statements:

Not a hazardous substance or mixture

Pictograms: N/A

3. Composition / Information on Ingredients

Synonyms: Tween®20, Polysorbatum 20, Polyoxyethylene sorbitan monolaurate, Polyethylene glycol sorbitan monolaurate

Formula: $C_{58}H_{114}O_{26}$

Molecular Weight: 1227.5 g/mol

CAS-No: 9005-64-5

EC-No: 500-018-3

4. First Aid Measures

General Advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Route of Exposure

If Swallowed: Never give anything by mouth to an unconscious person. Rinse mouth with water.

In Case of Skin Contact: Wash area thoroughly with soap and water.

In Case of Eye Contact: In case of contact with eyes, flush with copious amounts of water.

If Inhaled: Safely remove victim to fresh air. If not breathing, institute cardiopulmonary resuscitation (CPR).

Most Important Symptoms and Effects, Both Acute and Delayed: The most important known symptoms and effects are described in Section 2 (Hazards Identification) and/or in Section 11 (Toxicological Information).

Recommendation for Immediate Medical Care and Special Treatment Needed: No Data Available

5. Firefighting Measures

Suitable Extinguishing Media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special Protective Equipment and Precautions for Firefighters: Wear self-contained breathing apparatus for firefighting if necessary.

Special Hazards Arising from the Substance or Mixture: Carbon oxides

Combustible

Additional Information: Prevent fire extinguishing water from contaminating surface water or the ground water system.

6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas.

Environmental Precautions: Prevent further leakage or spillage if safe to do so. See Section 2 (Hazards Identification) for more information.

Methods and Material for Containment and Cleanup: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

7. Handling and Storage

Precautions for Safe Handling: Use personal protective equipment. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. For precautions see section 2.

Conditions for Safe Storage: Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended Storage Temperature: 15° to 30 °C

Incompatibilities: Strong oxidizing agents

8. Exposure Controls / Personal Protection

OSHA Permissible Exposure Limits (PELs): Contains no substances with occupational exposure limit values.

ACGIH Threshold Limit Values (TLVs): Contains no substances with occupational exposure limit values.

Engineering Controls: Practice general industrial hygiene. Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment (PPE):

Eye/Face Protection: Face shield or appropriate safety glasses. Use equipment for eye protection tested and approved under appropriate standards.

Skin Protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Respiratory Protection: Respiratory protection is not required. Where protection from nuisance levels of dusts or vapors is desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate standards.

Body Protection: Wear lab coat, gown, or coveralls to protect from exposure.

9. Physical and Chemical Properties

Appearance: Yellow to Amber Viscous Liquid

pH: 7

Solubility: 0.0002 g/l at 20 °C (68 °F) - OECD Test Guideline 105

Specific Gravity: No Data Available

Melting Point: 98.9 °C (210.0 °F)

Odor: Odorless

Odor Threshold: No Data Available

Viscosity: No Data Available

Relative Density: 1.095 g/mL at 25 °C (77 °F)

Evaporation Rate: No Data Available

Initial Boiling Point and Boiling Range: > 100 °C (> 212 °F)

Flash Point: 275 °C (527 °F) at ca.1,013 hPa - Pensky-Martens closed cup - DIN 51758

Flammability (Solid, Gas): No Data Available

Flammability Upper/Lower Limits: No Data Available

Partition Coefficient: No Data Available

Vapor Density: No Data Available

Vapor Pressure: < 1.4 hPa at 20 °C (68 °F)

Auto-Ignition Temperature: No Data Available

Decomposition Temperature: No Data Available

10. Stability and Reactivity

Reactivity: Forms explosive mixtures with air on intense heating. A range from approximately 15 Kelvin below the flash point is to be rated as critical.

Chemical Stability: Stable under recommended storage conditions.

Possibilities of Hazardous Reactions: No Data Available

Conditions to Avoid: Strong heating

Incompatible Materials: **Strong oxidizing agents**

Hazardous Decomposition Products: Hazardous decomposition products formed under fire conditions. – Carbon oxides

In the event of fire, see Section 5 (Firefighting Measures).

11. Toxicological Information

Toxicity: LD50 Oral – Rat – 38,900 mg/kg

LC50 Inhalation – Rat – male and female – 4 h – > 5.1 mg/l (OECD Test Guideline 403) Remarks: Limit Test (highest concentration to be prepared)

Skin corrosion/irritation – Rabbit – Result: No skin irritation – 4 h (OECD Test Guideline 404)

Respiratory or skin sensitization – Maximization Test – Guinea pig – Result: Does not cause skin sensitization. (OECD Test Guideline 406)

Carcinogenicity:

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive Toxicity: No Data Available

Symptoms Associated with Overexposure: No Data Available

Specific Target Organ Toxicity – Single Exposure: No Data Available

Specific Target Organ Toxicity – Repeated Exposure: No Data Available

Target Organs: None Identified

Medical Conditions Aggravated by Exposure: None Identified

Routes of Entry: No Data Available

NIOSH/RTECS: TR7400000

12. Ecological Information

Toxicity: Toxicity to fish static test LL50 - Danio rerio (zebra fish) - > 100 mg/l - 96 h (OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia - > 10 mg/l - 48 h Remarks: (above the solubility limit in the test medium)(Lit.)

Toxicity to bacteria microtox test EC50 - Bacteria - 146 - 774 mg/l - 5 min Remarks: (Lit.)

Persistence and Degradability: aerobic - Exposure time 28 d - Result: > 60 % - Readily biodegradable. (OECD Test Guideline 301F)

Bioaccumulative Potential: No Data Available

Mobility in Soil: No Data Available

Results of PBT and vPvB: PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

Other Adverse Effects: No Data Available

13. Disposal Considerations

Disposal of Product: Dispose in accordance with all applicable federal, state, and local environmental regulations. See Section 2 (Hazards Identification) for additional guidelines in disposals.

Disposal of Packaging: Dispose of as unused product.

14. Transport Information

DOT (US):

Proper Shipping Name: CHEMICALS, N.O.S. (NON-REGULATED)

UN/NA number: N/A Class: N/A Packaging group: N/A Hazard Label: N/A

Reportable Quantity (RQ): N/A

Poison Inhalation Hazard: N/A

IMDG:

Proper Shipping Name: CHEMICALS, N.O.S. (NON-REGULATED)

UN number: N/A Class: N/A Packaging group: N/A Hazard Label: N/A

IATA:

Proper Shipping Name: CHEMICALS, N.O.S. (NON-REGULATED)

UN Number: N/A Class: N/A Packaging group: N/A Hazard Label: N/A

15. Regulatory Information

TSCA: Listed

SARA Title lll:

Section 302 (EHS) Ingredients: None

Section 313 Ingredients: None

Section 304 (EHS/CERCLA) Ingredients: None

Section 311/312 Hazard: None

16. Other Information

Further Information: All chemicals may pose unknown hazards and should be used with caution. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Caisson Laboratories, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.

CN-T046-SDS Revision Change Summary:

Rev.	Date	CR#	Approved	Change description
00	05-Aug-21	3745	E. Welker	New Document