



MATERIAL SAFETY DATA SHEET

Polysorbate 20

1. Product Identification

Synonyms: Polyoxyethylene 20 Sorbitane mono-Laurate, Tween 20

CAS No.: 9005-64-5

Molecular Weight: Not applicable to mixtures

Chemical Formula: Not applicable to mixtures

Product Codes: P112

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Polysorbate 20	9005-64-5	1 0 0 %	Yes

3. Hazards Identification

EMERGENCY OVERVIEW

CAUTION!! MAY CAUSE IRRITATION TO SKIN AND EYES.

Health Rating: 1 - Slight

Flammability Rating: 1 - Slight

Reactivity Rating: 0 - None

Contact Rating: 1 - Slight

Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES; CLASS B EXTINGUISHER

Storage Color Code: Green (General Storage)

Potential Acute Health Effects:

Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.

Inhalation:

Not expected to be a health hazard.

Ingestion:

Large doses may produce abdominal spasms, diarrhea.

Skin Contact:

May cause irritation or sensitization in sensitive individuals.

Eye Contact:

May cause irritation.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. Repeated or prolonged exposure is not known to aggravate medical condition.

4. First Aid Measures

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention for any breathing difficulty.

Serious Inhalation:

Not available.

Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. If large amounts were swallowed, get medical advice.

Skin Contact:

Immediately flush skin with plenty of soap and water for at least 15 minutes. Wash with soap and water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if irritation develops.

Serious Skin Contact:

Not available.

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention if irritation persists.

5. Fire Fighting Measures

Fire:

Flash point: 148C (298F) CC

Not considered to be a fire hazard.

Explosion:

Not considered to be an explosion hazard.

Special Remarks on Explosion Hazards:

Not available.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available

Fire Extinguishing Media:

Use any means suitable for extinguishing surrounding fire.

Products of Combustion:

These products are carbon oxides (CO, CO₂).

Fire Hazards in Presence of Various Substances:

Slightly flammable to flammable in presence of open flames and sparks, of heat. Non-flammable in presence of shocks.

Special Information on Fire Hazards:

Not available.

Fire Fighting Media and Instructions:

SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures**Small Spill:**

Absorb with an inert material and put the spilled material in an appropriate waste disposal.

Large Spill:

Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

7. Handling and Storage**Precautions:**

Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents.

Storage:

Keep container tightly closed. Keep container in a cool, well-ventilated area.

8. Exposure Controls/Personal Protection**Airborne Exposure Limits:**

None established.

Ventilation System:

Not expected to require any special ventilation.

Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection:

Safety glasses. Lab coat.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Personal Respirators:

Not expected to require personal respirator usage.

Skin Protection:

Wear protective gloves and clean body-covering clothing.

Eye Protection:

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties**Appearance:**

Amber liquid.

Odor:

No information found.

Solubility:

Soluble in water

Density:

1.11.

pH:

No information found.

% Volatiles by volume @ 21C (70F):

3.0.

Boiling Point:

> 100C (> 212F).

Melting Point:

No information found.

Vapor Density (Air=1):

No information found.

Vapor Pressure (mm Hg):

No information found.

Molecular Weight:

< 1.0 @ 20C (68F)

Evaporation Rate (BuAc=1):

No information found.

10. Stability and Reactivity**Stability:**

Stable under ordinary conditions of use and storage.

Conditions to Avoid:

Not available.

Conditions of Instability:

Excess heat (elevated temperatures), incompatible materials.

Incompatibilities:

Reactive with oxidizing agents.

Hazardous Decomposition

Carbon dioxide and carbon monoxide may form when heated to decomposition.

Special Remarks on Reactivity:

Not available.

Corrosivity:

Non-corrosive in presence of glass.

Hazardous Polymerization:

Will not occur.

11. **Toxicological Information**

Routes of Entry:

Absorbed through skin. Eye contact. Inhalation.

Toxicity to Animals:

Acute oral toxicity (LD50): >33000 mg/kg [Mouse].

Chronic Effects on Humans:

Not available.

Other Toxic Effects on Humans:

Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.

Special Remarks on Chronic Effects on Humans:

May cause adverse reproductive effects (post-implantation mortality) and birth defects based on animal data.

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects:

Skin:

May cause mild irritation. Will probably not be absorbed through skin.

Eyes:

No irritation is likely to develop following contact with human eyes.

Inhalation:

No irritation is expected to be associated with inhalation of this material. However, it may cause respiratory tract irritation. No toxic effects are known to be associated with inhalation of this material.

Ingestion:

May cause gastrointestinal tract irritation with nausea, vomiting, diarrhea, and hyper motility. The most notable effect observed at higher doses is diarrhea, an expected, non-specific physiological effect associated with having large quantities of a relatively slowly absorbed material in the gut. It may also affect liver, blood and urinary tract.

12. **Ecological Information**

Ecotoxicity:

Not available

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation:

The product itself and its products of degradation are not toxic.

13. **Disposal Considerations**

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

14. **Transport Information**

DOT Classification:

Not a DOT controlled material

Identification:

Not applicable.

Special Provisions for Transport:

Not available.

Protective Equipment:

Gloves (impervious). Synthetic apron. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

15. **Other Information**

NFPA Ratings: Health: **1** Flammability: **0** Reactivity: **0**

Label Hazard Warning:

CAUTION! MAY CAUSE IRRITATION TO SKIN AND EYES.

Label Precautions:

Avoid contact with eyes, skin and clothing.

Keep container closed.

Wash thoroughly after handling.

Label First Aid:

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Get medical attention if irritation develops or persists.

Product Use:

Laboratory Reagent.

Revision Information:

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.



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