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Safety Data Sheet
Polysorbate 80

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

1.1. Product identifier

Product Identity Polysorbate 80
Alternate Names Polyoxyethylene (20) sorbitan monooleate; Alkest TW 80; Tween 80
Unique Formula Identifier

1.2. Relevant identified uses of the substance or mixture

Industrial use

1.3. Details of the supplier of the safety data sheet

Company Name Silver Fern Chemical, Inc.
121 W. De La Guerra Street, Suite B
Santa Barbara, CA 93101 USA
Customer Service: 1-866-282-3384 /
info@silverfernchemical.com
Website - www.silverfernchemical.com

Customer Service:

1.4. Emergency telephone number

24-hour Emergency Telephone No. **Emergency telephone number**
Infotrac: 1-800-535-5053
Outside USA & Canada +1-352-323-3500

Section 2. Hazard identification of the product

2.1. Classification of the substance or mixture

REGULATIONS (EU) 2024/2865, (EU) 2023/707, (EU) 2020/878 amending Regulations EU 2015/830 and (EC) No 1907/2006 of the European Parliament and

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of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH). REGULATION (EC) 1272/2008 on the classification, labeling and packaging of substances and mixtures (CLP).

Skin corrosion/irritation, Category 3

Serious eye damage/eye irritation, Category 2B

2.2. Label elements



WARNING

[Prevention]

H316 Causes mild skin irritation.

H320 Causes eye irritation.

[Response]

P264 Wash thoroughly after handling.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact

lenses, if present and easy to do. Continue rinsing.

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

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

[Storage]

No GHS storage statements

[Disposal]

No GHS disposal statements

2.3. Other hazards

This product contains no PBT/vPvB/vPvM chemicals.

This product contains no endocrine disrupting chemicals.

Section 3. Composition/information on ingredients



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3.1. Substances

If the product contains substances that present a hazard according to Regulation (EC) No. 1272/2008 [CLP/GHS], they are listed below.

Ingredient/Chemical Designations	Weight %	EC No. 1272/2008 Classification	Notes
Polyoxyethylene 20 sorbitan monooleate CAS Number: 9005-65-6 EC No. 500-019-9	100%	Not Classified	

[^]CLP³¹ Reference EC No. 1272/2008 1.1.3.1. Notes relating to the identification, classification and labelling of substances (Table 3.1).

*PBT/vPvB - PBT, vPvM or vPvB-substance.

The full texts of the phrases are shown in Section 16.

Section 4. First aid measures

4.1. Description of first aid measures

General In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

Inhalation Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious, place in the recovery position and obtain immediate medical attention. Give nothing by mouth.

Eye Rinse with plenty of clean water for at least 15 minutes, holding the eyelids apart and seek medical attention.

Skin Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser.

Ingestion If swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed

Overview No specific symptom data available.

No chronic toxicity or long-term toxicity information available. Treat symptomatically. See section 2 for further details.



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4.3. Indication of any immediate medical attention and special treatment needed

Notes to physician Treat symptomatically.

Section 5. Fire-fighting measures

5.1. Extinguishing media

Recommended extinguishing media; alcohol resistant foam, CO₂, powder, water spray.
Unsuitable extinguishing media: Do not use; water jet.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition: Product is not flammable.
In case of combustion it may generate carbon monoxide, besides CO₂.

5.3. Advice for fire-fighters

As with all fires, wear positive pressure, self-contained breathing apparatus, (SCBA) with a full-face piece and protective clothing. Persons without respiratory protection should leave area. Wear SCBA during clean-up immediately after fire. No smoking. Water jets should not be used directly on igniting products because it may disperse the material and intensify the fire.

Section 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Put on appropriate personal protective equipment (see section 8).
Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.
Isolate and signalize area. Keep heat and/or ignition sources away.

6.2. Environmental precautions

Do not allow spills to enter drains or waterways.



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6.3. Methods and material for containment and cleaning up

Ventilate the area and avoid breathing vapors. Take the personal protective measures listed in section 8.

Contain and absorb spillage with non-combustible materials e.g. sand, earth, and vermiculite. Place in closed containers outside buildings and dispose of according to the Waste Regulations.

6.4 Reference to other sections

See Section 1 for emergency contact information.

See Section 8 for information on appropriate personal protective equipment.

See Section 13 for additional waste treatment information.

Section 7. Handling and storage

7.1. Precautions for safe handling

Handle containers carefully to prevent damage and spillage.

Use in a well-ventilated area.

Avoid inhalation and contact with eyes, skin or clothing through proper protection.

If accidental contact occurs, exposed area should be washed immediately.

Emergency eyewashes and showers shall be located in accessible locations.

Wash hands and face thoroughly after handling.

Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Incompatible materials: Avoid contact with: Strong oxidizing agents.

Store in a covered and well-ventilated area, away from sunlight and sources of heat or open flames.

Ensure that the storage location has adequate moisture, pressure and temperature.

Keep containers tightly closed when not in use.

7.3. Specific end use(s)

No available information

Section 8. Exposure controls / personal protection



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8.1. Control parameters

Exposure Limits

CAS No.	Ingredient	Source	Value
9005-65-6	Polyoxyethylene 20 sorbitan monooleate	ACGIH	No Established Limit
		DNEL Local Exposure	No Established Limit
		DNEL Systematic Exposure	No Established Limit
		National	No Established Limit

8.2. Exposure controls

Respiratory	If workers are exposed to concentrations above the exposure limit they must use the appropriate, certified respirators.
Eyes	Protective safety glasses recommended
Skin	Avoid skin contact. Protective gloves recommended.
Engineering Controls	Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.
Other Work Practices	Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

Section 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical State	Liquid
Color	Yellowish. Amber.
Odor	No available information
Odor threshold	No available information
Melting point / freezing point	> 20 °C.
Initial boiling point and boiling range	> 100 °C.
Flammability (solid, gas)	Not Applicable
Upper/lower flammability or explosive limits	Lower Explosive Limit: No available information
Flash Point	Upper Explosive Limit: No available information > 149 °C (open cup).



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Auto-ignition temperature	No available information
Decomposition temperature	No available information
pH	6.0 - 7.0 (sol. 5%).
Viscosity (cSt)	300 - 500 cSt (25 °C).
Solubility in Water	Soluble in water (20 °C for 1 hour / concentration of 0.5%). Soluble in ethanol (25 °C).
Partition coefficient n-octanol/water (Log Kow)	No available information
Vapor pressure (Pa)	0.001 kPa (25 °C).
Relative Density (Water = 1)	1.07 g/cm ³ (25 °C).
Vapor Density (Air = 1)	45.
Evaporation rate (Ether = 1)	No available information
Oxidising properties	No available information
Explosive properties	No available information

9.2. Other information

No other relevant information.

Section 10. Stability and reactivity

10.1. Reactivity

Hazardous Polymerization will not occur.

10.2. Chemical stability

Stable under normal circumstances.

10.3. Possibility of hazardous reactions

No available information

10.4. Conditions to avoid

Avoid high temperatures and contact with incompatible material

10.5. Incompatible materials

Avoid contact with: Strong oxidizing agents.

10.6. Hazardous decomposition products

In case of combustion it may generate carbon monoxide, besides CO₂.

Section 11. Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008



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Acute toxicity

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapour LC50, mg/L/4hr	Inhalation Dust/Mist LC50, mg/L/4hr	Inhalation Gas LC50, ppm
Polyoxyethylene 20 sorbitan monooleate - (9005-65-6)	58,860.00, Rat - Category: NA	No data available.	No data available.	No data available.	No data available.

Classification	Category	Hazard Description
Acute toxicity (oral)	---	---
Acute toxicity (dermal)	---	---
Acute toxicity (inhalation)	---	---
Skin corrosion/irritation	3	Causes mild skin irritation
Serious eye damage/irritation	2B	Causes eye irritation
Respiratory sensitization	---	---
Skin sensitization	---	---
Germ cell mutagenicity	---	---
Carcinogenicity	---	---
Reproductive toxicity	---	---
STOT-single exposure	---	---
STOT-repeated exposure	---	---
Aspiration hazard	---	---

11.2 Information on other hazards

11.2.1. Endocrine disrupting properties

This product contains no endocrine disrupting chemicals.

Section 12. Ecological information

12.1. Toxicity

No additional information provided for this product. See Section 3 for chemical specific data.

Aquatic Ecotoxicity



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Ingredient	96 hr LC50 fish, mg/L	48 hr EC50 crustacea, mg/L	ErC50 algae, mg/L	3hr IC50 Bacteria mg/L	Biodegradability %
Polyoxyethylene 20 sorbitan monooleate - (9005-65-6)	>100.00, Fish	>10,000.00, Daphnia magna	58.94, Algae	16.84	61.00

12.2. Persistence and degradability

There is no data available on the preparation itself.

12.3. Bioaccumulative potential

No available information

12.4. Mobility in soil

No available information

12.5. Results of PBT and vPvB assessment

This product contains no PBT/vPvB/vPvM chemicals.

12.6 Endocrine disrupting properties

This product contains no endocrine disrupting chemicals.

12.7. Other adverse effects

No available information

Section 13. Disposal considerations

13.1. Waste treatment methods

Observe all federal, state and local regulations when disposing of this substance.

Section 14. Transport information

	ADR/RID	IMO / IMDG (Ocean Transportation)	ICAO/IATA
14.1. UN number	Not Regulated	Not Regulated	Not Regulated
14.2. UN proper shipping name	Not Regulated	Not Regulated	Not Regulated
14.3. Transport hazard class(es)	Class: Not Applicable	Class: Not Applicable Sub Class: Not Applicable	Class: Not Applicable



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14.4. Packing group Not Applicable Not Applicable

Sub Class: Not Applicable

14.5. Environmental hazards

IMDG Marine Pollutant: No;

14.6. Special precautions for user

No available information

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not Applicable

Section 15. Regulatory information

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

EU Legislation

REGULATIONS (EU) 2024/2865 , (EU) 2023/707, (EU) 2020/878 amending Regulations EU 2015/830 and (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH). REGULATION (EC) 1272/2008 on the classification, labeling and packaging of substances and mixtures (CLP).

Candidate List of SVHC for Authorization: Not Applicable

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles: Not Applicable

15.2. Chemical Safety Assessment

No Chemical Safety Assessment has been carried out.

Section 16. Other information

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The information on this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance itself. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume damage or expense arising out of or in any way responsibility and expressly disclaim liability for loss, connected with handling, storage, use, or disposal of this product. If the product is used as a component in another product, this SDS information may not be applicable.

The full text of the phrases appearing in section 3 is:

Not Applicable

ACGIH - American Conference of Governmental Industrial Hygienists

ADR - International Carriage of Dangerous Goods by Road (Accord Dangereux Routier)

CAS - Chemical Abstracts Service

CLP - Classification Labeling and Packaging

DOT - Department of Transportation

EC - European Commission

EC50 - Half maximal effective concentration

ErC50 - EC50 in terms of reduction of growth rate

GHS - Globally Harmonized System

IARC - International Agency for Research on Cancer

IATA - International Air Transport Association

IC50 - Half Maximal Inhibitory Concentration

ICAO - International Civil Aviation Organization

IMDG - International Maritime Dangerous Goods Code

IMO - International Maritime Organization

LC50 - Lethal Concentration of a substance at which 50% of test animals die

LD50 - Lethal Dose at which 50% of the animals will be expected to die

NIOSH - National Institute for Occupational Safety and Health

NTP - National Toxicology Program

OSHA - Occupational Safety and Health Administration

PBT - Persistent, Bioaccumulative and Toxic Chemicals

PEL - Permissible Exposure Limit



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REACH - Registration, Evaluation, Authorization and Restriction of Chemicals
RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
STEL - Short Term Exposure Limit
TWA - Time Weighted Average
vPvB - Very Persistent and very Bio-accumulative
WGK - Water Hazard Class

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

No applicable GHS categories. Classification	Justification
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