

Material Safety Data Sheet (MSDS) for Soybean Oil

Manufacturer: Shandong Ruisheng Pharmaceutical Excipients Co., Ltd.

Packaging Specifications: 20KG/drum, 200KG/drum, 500ml/bottle

Manufacturer's Address: Middle Section of West Ring Road, Dong'e County,
Liaocheng City, Shandong Province

Contact Number: 0635-5018008

Section 1: Chemical Product and Company Identification

Chemical Name: Soybean Oil

Main Component & Chemical Name: This product is a fatty oil extracted from the seeds of *Glycine soya Benth* (Fabaceae).

English Name: Soybean Oil

Section 2: Composition/Information on Ingredients

Property: Mixture

This product is a fatty oil extracted from the seeds of *Glycine soya Benth*, thus it is a mixture. Generally, soybean oil mainly consists of glycerides of various fatty acids, with the fatty acid composition as follows: linoleic acid 48% ~ 58%, linolenic acid 5% ~ 11%, oleic acid 17% ~ 30%, palmitic acid 9% ~ 13%, stearic acid 2.5% ~ 5%, and trace amounts of other fatty acids.

Section 3: Hazards Identification

Hazard Class: Not defined by national standards

Routes of Exposure: Ingestion

Health Hazards: Harmful to the body if ingested in large quantities

Environmental Hazards: Minor

Section 4: First-Aid Measures

General Advice: Consult a physician.



Inhalation: If inhaled, remove the victim to fresh air. Perform artificial respiration if breathing stops.

Skin Contact: Wash with soap and plenty of water.

Eye Contact: Rinse thoroughly with plenty of water for at least 15 minutes and seek medical advice.

Ingestion: Do not give anything by mouth to an unconscious person. Rinse mouth with water and seek medical advice.

Symptoms Requiring Immediate and Special Medical Attention: No detailed data available.

Section 5: Fire-Fighting Measures

Property: Not a flammable substance, but combustible

Extinguishing Media: Dry chemical powder, carbon dioxide

Special Hazards: In case of fire, the release of other toxic gases cannot be ruled out, e.g., Carbon Monoxide (CO).

Special Extinguishing Procedures: Avoid inhalation of dust/smoke/gases/fumes/vapors/spray.

Special Protective Equipment for Firefighters: Wear appropriate respiratory protection in case of insufficient ventilation.

Section 6: Accidental Release Measures

Protective Measures

Wear protective clothing and use respiratory protection to avoid exposure to smoke/dust/aerosols.

Environmental Precautions

Do not allow the product to enter sewage systems or any water sources.

Spill/Lekage Handling

Absorb with sand or other inert materials, or rinse with plenty of clean water, dilute and discharge into the wastewater collection system.

Section 7: Handling and Storage

Soybean oil is stable in an oxygen-free environment.

Soybean oil emulsions may produce free fatty acids during long-term storage, especially at high temperatures, resulting in a decrease in the pH of the emulsion; degradation is minimal at pH 6~7. Soybean oil emulsions are highly stable when

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stored at room temperature in light-proof containers and under a nitrogen atmosphere.

Other additives in the formulation of soybean oil emulsions have a significant impact on their stability.

Soybean oil should be stored in full, airtight and light-proof containers at a temperature not exceeding 25°C[1].

In accordance with the provisions of Volume IV of the Chinese Pharmacopoeia 2025 Edition and stability study results, the storage conditions for soybean oil are: protected from light, sealed, stored in a cool and dark place.

Section 8: Exposure Controls/Personal Protection

Engineering Controls: Operate in a closed system with adequate ventilation.

Respiratory Protection: Wear self-priming filter type gas mask (half-mask) when the concentration in the air exceeds the limit; wear air respirator during emergency evacuation or first aid.

Eye Protection: Wear chemical safety goggles.

Body Protection: Wear chemical protective clothing resistant to poison penetration.

Hand Protection: Wear rubber gloves.

Other Protection: None

Section 9: Physical and Chemical Properties

Main Component: Mixture

Physical State: Pale yellow clear liquid

Relative Density: 0.919 ~ 0.925

Acid Value: Not more than 0.2

Saponification Value: 188 ~ 195

Iodine Value: 126 ~ 140

Peroxide Value: Not more than 10.0

Refractive Index: 1.472 ~ 1.476

Solubility: Very slightly soluble in ethanol, almost insoluble in water.

Section 10: Stability and Reactivity

Combustibility: Combustible

Reactivity: May thicken and become rancid upon prolonged exposure to air.

Stability: Relatively stable at low temperatures.

Section 11: Toxicological Information

Soybean oil is widely used as a pharmaceutical solvent for intramuscular injection, or as a component of emulsions for total parenteral nutrition, and also as an edible oil. It is considered a completely non-toxic and non-irritating substance. However, there have been reports of severe adverse reactions caused by the injection of soybean oil emulsions, including anaphylaxis, central nervous system reactions and fat embolism, and it also interferes with the anticoagulant effect of warfarin.

There are occasional reports of allergic reactions caused by food containing soybean oil. Recently, attention has been paid to the effects of phytoestrogen concentrations in soybean products. Soy protein taken by humans can significantly reduce serum lipid concentrations.

LD50 (Mouse, IV): 22.1g/kg

LD50 (Rat, IV): 16.5g/kg[1,2]

Maximum Dosage for Injection: 10.00%

Oral Administration:

Capsules: Maximum dosage 0.14mg

Tablets: Maximum dosage 6.86mg

Topical Application on Skin: Maximum dosage 50.20%

References

1. Translated by Zheng Junmin. *Handbook of Pharmaceutical Excipients (4th Edition)*. Beijing: Chemical Industry Press, 2005:203
2. Pharmaceutical Excipient Database, Center for Drug Evaluation, National Medical Products Administration

Section 12: Ecological Information

Persistence and Degradability: Readily biodegradable

Other Information:

Potential for Bioaccumulation: No expected accumulation in organisms.

Mobility in Soil: No detailed data available.

Additional Ecological Information: Do not allow undiluted or large quantities of the product to contact groundwater, water courses or sewage systems; Water Hazard Class: Slightly hazardous to water.

Other Adverse Effects: No detailed data available.

Section 13: Disposal Considerations

Waste Disposal Method: It is recommended to dispose of the product in strict

accordance with government regulations.

Contaminated Containers and Packaging: It is recommended to discard in accordance with official regulations.

Section 14: Transport Information

Transport Hazard Class: Not specified

Environmentally Hazardous: No

Marine Pollutant: No

Special Precautions for Users: Not applicable

Section 15: Regulatory Information

Hazardous Chemicals List: The substance is not listed.

Chemical Safety Assessment: Not yet conducted.

Section 16: Other Information

None

Shandong Ruisheng Pharmaceutical Excipients Co., Ltd.

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