Safety Technical Manual for Potato Starch

Part 1: Product and Corporate Identification

Name: Potato Starch

Name of manufacturing enterprise: Shandong Ruisheng Pharmaceutical Co., Ltd

Address: 50 meters west of Guocao Road, Houlou Village, Jiazhai Town, Chiping District, Liaocheng City, Shandong Province (Houlou Industrial Park)

Postal code: 252114

Emergency contact number: 0635-2980018 Fax: 0635-2980019

Effective Date: 2022-10-25

Part 2: Composition and Physicochemical Properties

Ingredient composition:

Ingredient	Proportion
Potato starch	100. 0%

Physicochemical properties:

Potato starch is a white powder with a high content of amylopectin (≥ 79%), a low gelatinization temperature (64°C), a viscosity peak of 2988 BU (5 times that of corn starch), and is not prone to gelation after cooling. It has extremely high transparency (transmittance ≥95%) and a water absorption capacity of 398–598 times its own mass.

Storage:

Sealed and moisture-proof to avoid caking and loss of efficacy; stored in a cool place, with a shelf life of up to 2 years.

Part 3:Overview of Hazards

Hazard category: Non-hazardous goods

Route of entry: ingestion, inhalation, skin contact, eye contact.

Health hazards: This product is non-toxic. Oral overdose is harmful, leading to the formation of starch stones and causing intestinal obstruction. It is irritating to the eyes and skin upon inhalation or contact.

Environmental hazards: None

Risk of explosion: Non-flammable, combustible.

Part 4: First Aid Measures

Overdose: Inhalation, ingestion, or skin contact with this substance may cause delayed reactions. Ensure that medical personnel are aware of the individual protection knowledge related to this

substance and pay attention to their own protection. Drink plenty of water after ingesting too much, and seek medical attention if you feel unwell.

Skin contact: Typically non-irritating, but dry dust may cause skin dryness or mild itching

Eye contact: If the substance comes into eye contact, immediately flush with clean water.

Inhalation: Dust may irritate the respiratory tract, causing coughing or difficulty breathing. Prolonged exposure may lead to mild inflammation of the lungs.

Part 5: Fire Prevention Measures

Hazardous characteristics: Excessive dust is prohibited, as it is prone to explode in the presence of open flames.

Hazardous combustion products: carbon monoxide

Fire extinguishing method: Firefighters must wear gas masks and full-body flame-resistant clothing, and extinguish the fire from the upwind direction. Water can be used directly for fire extinguishment, or carbon dioxide, dry powder, and other fire extinguishers can be employed.

Part 6: Emergency Response for Leaks

Emergency response: After leakage, avoid dust emission and promptly collect the leaked material in a sealed container. In case of a large amount of leakage: Collect and recycle the uncontaminated parts, and gently sweep the contaminated parts to a waste disposal site for treatment. Do not allow them to enter the sewer.

Part 7 :Operation, Disposal and Storage

Operational precautions: Operators must be trained and strictly adhere to operating procedures. It is recommended that operators wear dust masks. Keep away from sources of ignition and heat. Smoking is strictly prohibited in the workplace. Keep away from flammable and combustible materials. Avoid generating dust. When handling, ensure gentle loading and unloading to prevent damage to packaging and containers. Equip with appropriate types and quantities of firefighting equipment and emergency response tools for leaks.

Storage precautions: Store in a tightly sealed package in a dry and ventilated warehouse. Keep away from sources of ignition. Store separately from flammable materials.

Part 8: Exposure Controls/Personal Protection

Engineering control: Conduct operations in a sealed environment with local exhaust ventilation.

Respiratory protection: Wear a dust mask during operation.

Eye protection: Wear safety goggles.

Body protection: Wear work clothes.

Hand protection: Wear labor protection gloves.

Other precautions: Smoking, eating, and drinking are prohibited at the workplace. After work, take a shower and change clothes. Pay attention to personal cleanliness and hygiene.

Part 9: Physicochemical Properties

Appearance and Characteristics: White or almost white powder, odorless and tasteless. Insoluble in water and ethanol.

Flash point (℃): N/A Ignition temperature (℃): N/A

Upper explosion limit [％ (V/V)]: N/A Lower explosion limit [％ (V/V)]: N/A

Heat of combustion (kJ/mol): N/A Critical temperature (℃): N/A

Critical pressure (MPa): meaningless

Solubility: Insoluble in water, nor in organic solvents such as ethanol or ether.

Main uses: It is mainly used as a binder, disintegrant, and filler in solid preparations, and for fermentation in industries such as beer and vitamin production.

In the feed industry, it is used for feed formulation and other purposes.

Part 10: Stability and Reactivity

Stability: The product is relatively stable

Prohibited compatibility: Do not mix with strong oxidizers, acids, alkalis, etc.

Aggregation hazard: Non-aggregating.

Decomposition products: Under normal conditions, it does not decompose. However, it can be degraded into dextrin or reducing sugars by strong inorganic acids or biological enzymes.

Part 11 Toxicological Information

Acute toxicity: None.

Irritation: None.

Mutagenicity test: No teratogenicity or mutagenicity.

Safety: Non-toxic.

Part 12: Ecological Information

Ecotoxicity: None.

Biodegradability: It can be degraded into maltodextrin or reducing sugars under the action of biological enzymes.

Non-biodegradability: It degrades into dextrin or reducing sugars in the presence of strong inorganic acids.

Other harmful effects: None

Part 13: Waste Disposal

Waste property: Stable.

Waste disposal method: Reuse if possible or bury in a designated location.

Disposal precautions: None

Part 14: Transportation Information

Dangerous goods code: Not dangerous.

UN number: No data available

Packaging label: Pharmaceutical excipient.

Packaging method: Inner packaging is in a polyethylene bag for medicinal use, and outer packaging is in a plastic woven bag. Packaging specification is 25 kilograms per piece.

Transportation precautions: This product can be transported as general cargo during transportation and is classified as non-hazardous. Strict precautions should be taken to prevent exposure to sunlight and rain.

Part 15 Regulatory Information

Regulatory information: Refer to the current edition of the Chinese Pharmacopoeia for application.

Part 16: Other Information

Formulated by: Technical Department of Shandong Ruisheng Pharmaceutical Co., Ltd

Date of establishment: November 20, 2024