

Sinopec Shanghai Petrochemical Company Limited

Material Safety Data Sheet (MSDS)

Material Name: San-ren Polyethylene Resin

Company Name: SINOPEC Shanghai Petrochemical Co., Ltd. Plastic Division.

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Technical specification code: SPC-SLB-PE-M002

Effective Date: November 1, 2015

Part 1 Composition

Main component	Concentration	CAS No.
Polyethylene	≥99.7%	9002-88-4

The material contains a small amount of stabilizer without hazardous materials.

Part 2 Risk Summary

Risk Category: According to China's national standards, it is not a dangerous chemical.

Invasive route: inhalation, ingestion.

Health hazards: The substance is harmless to the human body. The test result of the material complies with GB961-91-1988 "Hygienic Standard for Polyethylene Resin for Food Packaging".

Environmental hazards: The substance is not easily degraded, dissolved or chemically reacted by nature, but it may be degraded by light. It is harmful to the environment and special attention should be paid to soil contamination.

Explosion hazard: Under normal temperature and pressure, it will not burn or explode. Contact with strong oxidants may cause combustion and explosion. The auto-ignition temperature is higher than 350°C, and the main harmful substance when burning is CO.

Part 3 First Aid

- **Skin contact:** There is generally no irritation to the skin, and the skin will not absorb the harmful substances of the material and cause injury. After contact, rinse with soap or clear water.

- **Eye contact:** The entry of solids and dust will cause mechanical damage to the cornea, so rinse with flowing water immediately for more than 20 minutes. If foreign body sensation is still serious, seek medical attention immediately.

- **Inhalation:** Generally it will not cause harm. If it affects breathing, seek medical

attention immediately.

- **Ingestion:** A small amount of ingestion can be naturally excreted from the body. If excessive eating, please seek medical attention immediately.

Part 4 Fire Protection

Dangerous characteristics: Combustible at high temperatures, no spontaneous combustion at normal temperature and pressure.

Hazardous Combustion Products:

1. Decomposes under the conditions of combustion.
2. Smoke may contain a small amount of undesired toxic and irritating compounds after decomposition.
3. The products after combustion are mainly carbon monoxide and carbon dioxide.

Extinguishing methods and agents: No special requirements.

Fire extinguishing precautions and measures: There is no special requirement. When entering the fire, care should be taken to maintain normal breathing conditions.

Part 5 Emergency Treatment of Leakage

1. **Leakage on land:** Collect with a clean shovel in a dry, clean container.
2. **Leakage in water:** Salvage, collected in a clean container. If the substance or contaminated fluid enters the waterway, downstream users who have potential water pollution and local pollution control authorities should be notified immediately.

Part 6 Operational Disposal & Storage

Operational notes:

1. The operators should be specially trained to strictly observe the operating procedures;
2. The operating site should maintain good ventilation to prevent inhalation of smoke;
3. It is recommended that operators wear work clothes and heat-resistant gloves.
4. Smoking is prohibited in the workplace.
5. Avoid direct contact with strong oxidants.
6. It should be lightly loaded and unloaded to prevent damage to the packaging.
7. Equipped with corresponding fire-fighting equipment and leakage emergency treatment equipment;
8. Empty packaging materials should be collected and treated centrally to prevent environmental damage.

Storage note:

1. Store in a cool, dry, ventilated warehouse.
2. Keep away from fire, heat and strong oxidants, and keep the bag sealed.

Part 7 Contact Control & Individual Protection

Maximum allowable concentration: No regulations in China.

Detection method: It make no sense.

Engineering Control: Maximum ventilation is maintained. The operating department that produces the smoke must partially exhaust the air.

Respiratory protection: No protection is required for most operations, and dust masks are used when there is a lot of dust.

Eye protection: No protection is required for most operations, and safety goggles are used when there is a lot of dust.

Physical protection:

1. Wear general work clothes.
2. Appropriate ventilation is required when the product is hot-processed.
3. The following equipment should be provided for persons who may be exposed to molten material: masks, thermal protective gloves (long sleeves), cotton overalls with sleeve collars, leather safety shoes or rubber boots (Pants leg Liu outside), goggles, hard hat.

Hand protection: General gloves

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Part 8 Physical & Chemical Properties

Appearance: solid, white & odorless.

Melting point (°C): 100-120°C

Relative density (water = 1): 0.924-0.926 (g/cm³)

Auto-ignition temperature: >350°C

Solubility: Insoluble in water, swells in Xylene.

Recommended use: mainly used for the production of various transparent light packaging films.

Polymer type: homo-polymerization.

Part 9 Stability & Reactivity

Stability: Stable in natural condition.

Incompatible materials: Fluorine, antimony tetra-fluoride and strong oxidants; nitric acid, sodium-oxide, tri-nitro-methane.

Avoid contact conditions: Open flame, strong light.

Decomposition products: According to the temperature, other media materials and the adequacy of the air, different decomposition products are produced. During the thermal processing, the material will degrade to generate a very small amount of hydrocarbons and a limited amount of acetaldehyde. The final product of complete combustion is carbon dioxide and water..

Part 10 Toxicological Information

Acute toxicity: Acute oral toxicity test in rats, LD50 is higher than 10000mg/kg, non-toxic.

Irritation: Irritation: Rabbit skin irritation test, the average score of 0, non-irritating; rabbit eye irritation test, corneal, iris, conjunctiva, the average value of 0, no irritation.

Mutagenicity: In the short-term biological test Ames test and CHL cell chromosomal aberration test, no water soaking solution of the resin has mutagenicity. (Salmonella typhimurium)

Carcinogenicity: Insufficient human evidence.

Part 11 Ecological Information

Eco-toxicity: Ecological and biological accumulation, there is no severe poisoning reaction.

Biodegradability: In the terrestrial environment, the material will remain in the soil. In the marine environment, the material will float on the sea surface.

Non-biodegradability: The substance can be decomposed under high temperature, oxidation and ultraviolet light. When the relative molecular weight of the material is less than 5000, biodegradation can continue. The participation of natural environmental factors such as oxygen, heat, water (such as rain and snow), and forces (such as wind and sand) will accelerate the process of photo-degradation.

Part 12 Waste Disposal

Waste properties: General solid waste.

Disposal methods: This product is preferably recycled and can be recycled using crushing methods. The waste generated during the production process should be kept clean and properly stored for recycling. In compliance with local laws and regulations as well as other requirements, incineration or deep disposal can be carried out.

Part 13 Transport Information

Dangerous goods number: GB6944 not recorded

UN No. : 3314, Plastic Molding Compounds

Packaging Mark: Plastic Molding Compound

Packing Category: According to general chemical conditions

Packing method: Standard packaging: 25kg/bag, packed in polyethylene heavy-duty film bag, covered with polypropylene woven bag or composite bag; packaging size diameter 550mm*850mm. According to customer needs other forms of packaging may be taken into use.

Transportation precautions: Transport at ambient temperature, avoid exposure to sunlight or rain, and do not mix with sand, metal and other contaminants and flammable substances.

Part 14 Regulatory Information

There are no specific regulations.

Part 15 Other Information

Filling Time: September 10, 2005

Compilation note: According to our current understanding of the product, the above information is correct, but only for the purpose of illustrating the product. If there is new knowledge and information, we will modify it in time.