Material Safety Data Sheet

according to Regulation GB/T 16483-2008 and UN GHS(Rev.4)

Polyoxyethylene (5) sorbitan monooleate

Doc no.: RHB-STP-GY-020-2019 **Version:** C/0 **Revision Date:** 25-Nov-2019

Section 1: Chemical Product and Company Identification

1.1 Product identifier

Product name	Polyoxyethylene (5) sorbitan monooleate
Other name	Polysorbate 81
CAS number	9005-65-6

1.2 Recommended uses and uses advised against

Recommended use	Use as emulsifier in industrial and cosmetics industries
Uses advised against	Cannot be used in food

1.3 Details of the manufacturer of the safety data sheet

Company	Guangdong Runhua Chemistry Co., Ltd.
	No.7 Jinnan 2nd Road, Fine Chemical Industry Base, Qinghua Park, Donghuazhen, Yingde, Guangdong, 513058, China
	86-020-36293412
Contact person	YAO Kunhui
Emergency Tel	86-0763-2606712 (24HR)
Email address	gdrh@gdrunhua.com

Section 2: Hazards Identification

2.1 Classification of the substance or mixture

2.1.1 GHS hazard classification

Physical hazards	None
Health hazards	None
Environmental hazards	None

2.2 Label element

Hazard pictogram	None
Hazard statements	None
Signal word	None

2.3 Precaution statements

Prevention	Keep away from heat and fire
Response	Not applicable
Storage	Store in dry, cool and well-ventilated place Keep container tightly closed
Disposal	Disposal should be in accordance with applicable regional, national and local laws and regulations

Section 3: Composition and Information on Ingredients

3.1 Substance or mixture

Substance

3.2 Composition

Name	CAS#	EC#	% by weight
Polyoxyethylene (5) sorbitan monooleate	9005-65-6	/	~ 100

Section 4: First Aid Measures

4.1 First aid measures for different exposure routes

Inhalation	Move to fresh air. If symptoms persist, call a physician
Skin contact	Remove contaminated clothing. Rinse with plenty of water and soap
Eye contact	Rinse immediately with plenty of water, for at least 15 minutes. Get medical attention immediately if irritation persists
Ingestion	Drink plenty water to dilute. Get medical attention immediately if symptoms occur

4.2 Most important symptoms and effects

None under normal use conditions

4.3 Protection for emergency personnel	Emergency personnel should be informed about the substance
4.4 Notes to physician	Physician should be informed about the substance and treat symptomatically

Section 5: Fire and Explosion Data

5.1 Extinguishing media

Suitable extinguishing media	Substance is high temperature flammable. Use water, carbon dioxide, foam, dry powder
Unsuitable extinguishing media	Unknown
5.2 Specific hazards arising from the chemical	May ignite by sparks, heat flames. Carbon dioxide and carbon dioxide may be released by fire
5.3 Special protective actions for firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

Section 6: Accidental Release Measures

6.1 Personal precautions	Comply with good personal hygiene habits. Advice for non-emergency personnel: do not breathe in steam or aerosol. Evacuate area; follow emergency procedures and seek for expert's advice. Use personal protective equipment recommended in Section 8
6.2 Environmental precautions	Untreated chemicals are strictly prohibited to be discharged into the environment
6.3 Methods for containment and clean up	Contain spillage, and then collect with non-combustible absorbent materials, (e.g. sand, dry lime, soda ash) and place in container for disposal according to local/ national regulations. It can also be diluted with a large amount of water before release into the waste water system. For large spill, use dike to contain and then collect, transfer, recycle or discard after treatment

6.4 Preventive measures against secondary hazards	Immediate clean-up of the spillage

Section 7: Handling and Storage

7.1 Handling

Technical measures	Use in well-ventilated place. Wear personal protective equipment. Wash hands after working with substance
Local or general ventilation	Provide adequate ventilation
Precautionary measures	Avoid breathing excessive vapors/gas/fume. Do not get in eyes or contact with skin.
Safe operation statements	Avoid contact with eyes and skin. Use personal protection recommended by SDS Section 8.

7.2 Storage

Technical measures	No special storage requirements
Safe storage conditions	Keep containers tightly closed in a dry, cool and well -ventilated place. Keep away from kindling material, heat source and direct sun light
Incompatible substances	Oxidizing agent
Safe packaging material	Unknown

Section 8: Exposure Controls/Personal Protection

8.1 Exposure guidelines

Exposure limits	Unknown
Engineering controls	Closed production area; the use of local exhaust ventilation is recommended to control emissions near the source. Ensure there is eye wash station and emergency shower station nearby.

8.2 Personal protective equipment

Respiratory protection	Non-powered air-purifying respirators (full face mask) or self-contained respirator must be worn when expose to vapor.

Hand protection	Wear appropriate protective gloves
Eye protection	Wear safety goggles
Skin and body protection	Wear gloves and protective clothing (non-permeable)
Hygiene measures	Smoking, eating and drinking are prohibited at work site.

Section 9: Physical and Chemical Properties

9.1 General information

Physical state	Liquid
Shape	Oily liquid
Color	Between yellow and orange
Odor	Characteristic odor
pH	Unknown
Melting point	Unknown
Boiling point / range	Unknown
Flash point	>120° C （Closed cup）
Flammability	Unknown
Upper flammability limit (%)	Unknown
Lower flammability limit (%)	Unknown
Upper explosion limit (%)	Unknown
Lower explosion limit (%)	Unknown
Vapor pressure	<1.33hPa
Vapor density	Unknown
Relative density	Unknown
Density	Unknown
Solubility	Soluble in ethanol and ethyl acetate. Slightly soluble in mineral oil and vegetable oil. Can be dispersed in water
Partition coefficient; n-octanol/water	Unknown
Decomposition temperature	Unknown
Molecular Formula	$C_{34}H_{64}O_{11}$
Molecular weight	648g/mol

9.2 Other information

Solubility (other)	Unknown
Odor threshold	Unknown

Evaporation rate	Unknown
Inflammability (solid, gas)	Unknown
Viscosity	Unknown

Section 10: Stability and Reactivity Data

10.1 Stability	Stable under normal conditions
10.2 Possibility of hazardous reactions	None under normal processing
10.3 Conditions to avoid	Avoid incompatible materials and excessive heating
10.4 Incompatible materials	Strong oxidant and strong base
10.5 Hazardous decomposition products	Unknown

Section 11: Toxicological Information

11.1 Toxicokinetic, metabolism and distribution	Unknown

11.2 Toxicology information

Acute Toxicity

LD_{50} (oral, mice)	No data
LD_{50} (percutaneous, rabbit)	No data
LD_{50} (inhalation, mice)	No data

Skin corrosion/ irritation	Uncategorized
Eye corrosion/ irritation	Uncategorized
Respiratory/ skin sensitization	Uncategorized
Germ cell mutagenicity	Uncategorized
Carcinogenicity	Uncategorized
Reproductive toxicity	Uncategorized
STOT - single exposure	Uncategorized
STOT - repeated exposure	Uncategorized

Aspiration hazard	Uncategorized

Section 12: Ecological Information

12.1 Ecotoxicity

Fish	Unknown
Water flea	Unknown
Algae	

12.2 Persistence and degradability Unknown

12.3 Bioaccumulation/ accumulation Unknown

12.4 Mobility in soil Unknown

12.5 Other adverse effects Unknown

Section 13: Disposal Considerations

13.1 Waste from Residues / Unused Products

Disposal should be in accordance with applicable regional, national and local laws and regulations. Empty containers or gasket material may have residues; these material and containers must be disposed in a safe manner.

13.2 Contaminated packaging

Empty containers should be sent to approved waste disposal sites for regeneration or disposal. Empty containers may have residues， pay attention to label warnings even for empty containers.

13.3 Local Hazardous Waste Codes

Recycle or send it to a special waste disposal site in a sealed container. Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14: Transport Information

	ADR/ RID	IMDG	ICAO/ IATA
UN- No.	Uncategorized	Uncategorized	Uncategorized

UN proper shipping name	Non-dangerous good	Non-dangerous good	Non-dangerous good
UN hazard class	Uncategorized	Uncategorized	Uncategorized
Packaging group	Uncategorized	Uncategorized	Uncategorized
Marine pollutant	No	No	No
Special precautions for user related to transport or transportation measures	Refer to Section 2.2	Refer to Section 2.2	Refer to Section 2.2

Section 15: Other Regulatory Information

15.1 Special regulations/legislation on the safety, health and environmental protection of substances and mixtures

Whether it is included in the chemical catalogs of other countries:

2015 Catalogue of Hazardous Chemicals	This chemical is not listed in 2015 Catalogue of Hazardous Chemicals

The following laws, regulations and standards have made corresponding provisions on the safe use, storage, transportation, handling, classification and label of chemicals:

Law of the People's Republic of China on Work safety;

Law of the People's Republic of China on the Prevention and Control of Occupational Diseases;

Environmental Protection Law of the People's Republic of China;

Regulations on the Safe Management of Hazardous Chemicals in China;

Regulations on Production Safety Licenses;

15.2 Notes for downstream uses

Disposal of this product and container should comply with relevant regulations

Section 16: Other Information

16.1 Revision description

This document has been updated to comply with GB/T16483-2008 *Safety Date Sheet For Chemical Products Content and Order of Sections*

16.2 Details

The information provided in the SDS is correct to the best of our knowledge. The information is prepared exclusively for the specific material designated.

16.3 Special remarks

The information given in this SDS is designed only as a guidance. Users must independently determine and judge whether the contents are suitable for use and protect the health and safety of anyone handling the product. This SDS does not provide any guarantee, the information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

16.4 Abbreviation

ADR (Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG (International Maritime Dangerous Goods Code)

IATA (International Air Transport Association)

ICAO-TI (International Civil Aviation Organization- Technical Instructions)

CAS (Chemical Abstracts Service)

LC50 (Median lethal concentration)

EC50 (Half maximal effective concentration)

LD50 (Median lethal dose)

ADI (Acceptable daily intake)

16.5 Disclaimer

The information provided in the SDS is correct to the best of our knowledge. No warranties, expressed or implied, including, but not limited to, any implied warranty of merchantability or fitness for a particular purpose or course of performance or usage of trade. User is responsible for determining whether the designated product is fit for a particular purpose and suitable for user's method of use or application. Runhua is not responsible for any third-party compensation, loss, damage, or loss of profits caused, or any special, indirect, incidental, or consequential. All personnel handling product should be fully aware of the potential risks involved and take appropriate safety and regulatory measures before actually working with the product.