
SECTION 1: Identification

- 1.1 Product identifier**
Product name: Shodex STANDARD SL-105,SM-105,SH-75
- Other means of identification**
Reference number: SD-008US
- 1.2 Recommended use of the chemical and restrictions on use:**
Recommended use(s): Calibration standard for size exclusion chromatography.
- Restrictions on use:** Use only as specified by the manufacturer. For analytical use only. Please contact our department in charge when using for purposes other than those recommended.
- 1.3 Suppliers details:**
US supplier/importer Resonac America, Inc.
Address 2150 North First Street, suite 350, San Jose, CA 95131
Tel +1 408 873 2200
 (Monday – Friday 09:00 – 17:00 Pacific)
- Manufacturer:** Resonac Corporation
Department: Functional Chemicals Business Unit Specialty Chemicals Department
Address: Tokyo Shiodome Building, 1-9-1, Higashi-Shimbashi, Minato-ku, Tokyo 105-7325, Japan
Tel.: +81-3-6263-8112
Email: rec_shodex@resonac.com
- 1.4 Emergency telephone number:** CHEMTREC, USA (Customer number: CCN10573)
 U.S.A. Domestic call: 1-800-424-9300 (24h)]
 International call: +1-703-741-5970 (24h)

SECTION 2: Hazard(s) identification

This product is not classified as hazardous, hence classification according to Hazard Communication Standard (HCS) (29 CFR 1910.1200(g)), 2012 is not applicable. Safety Data Sheets do not have to be provided for non-hazardous products, however this information is provided as a courtesy to our customers in this format.

- 2.1 Classification of the substance or mixture**
 According to OSHA 29 CFR 1910.1200. HCS:
 Not classified.
- 2.2 Label elements**
- Hazard pictograms:** None.
- Signal word:** None.
- Hazard statements:** None.
- Precautionary statements:**

Prevention: None.
Response: None.
Storage: None

Disposal: None.

- 2.3 Hazards Not Otherwise Classified (HNOC)** May form combustible dust concentrations in air.

SECTION 3: Composition / information on ingredients

3.1 Substances

Name	CAS Number	Weight % Content
Polystyrene	9003-53-6	100

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

3.2 Mixtures

Not applicable.

SECTION 4: First-aid measures

4.1 Description of first aid measures

General advice: If you feel unwell, seek medical advice (show the label where possible).

Ingestion: Get immediate medical advice/attention.
 Rinse mouth thoroughly with water.
 It is recommended to give plenty of water for drinking and induce vomiting if possible.

Skin contact: Take off contaminated clothing and wash it before reuse. IF ON SKIN: Wash with plenty of soap and water.
 If skin irritation or rash occurs: Get medical advice/attention.

Eye contact: Rinse cautiously with water for several minutes (at least 15 minutes is recommended), occasionally parting eyelids to ensure thorough washing
 Remove contact lenses, if present and easy to do. Continue rinsing.
 If eye irritation persists: Get medical advice and attention.

Inhalation: Remove person to fresh air and keep comfortable for breathing.
 Get medical advice/attention as needed.
 If vomiting occurs, turn the head to the side, and take care to prevent suffocation.

4.2 Most important symptoms and effects, both acute and delayed

No information available.

4.3 Indication of immediate medical attention and special treatment needed, if necessary.

Treatment should be based on the judgement of the doctor in response to the symptoms of the patient.

4.4 Protection of first aid providers.

First aid providers should wear protective gloves/protective clothing/eye protection/face protection as specified in "Section 8 Exposure controls/personal protection".

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable Extinguishing Media: Spray water, carbon dioxide, foam, dry chemical.
Unsuitable Extinguishing Media: None.

5.2 Specific hazard arising from the substance or mixture

Product undergoing thermal decomposition may release irritating and toxic gases.

5.3 Advice for fire-fighters

Fire-fighting personnel must wear approved self-contained breathing apparatus and full protective clothing as standard.
Extinguish fire from an upwind position.
Evacuate unauthorized personnel to a safe place.
Remove transferable containers to a safe place immediately in case of fire in the vicinity, if safe to do so.
Collect water used for firefighting to avoid environmental contamination. Take appropriate prevention measure to avoid releasing substance which affects the environment by fire-fighting water.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Only allow authorized personnel in the area utilizing the appropriate personal protective equipment. For details of protective equipment, see Section 8.
Avoid generating dust.
Immediately extinguish sources of ignition in the spillage area and ready extinguishing media.
Immediately isolate spillage area. Use rope or tape to cordon off spillage area.
Stop leak if safe to do so.
Avoid inhalation, skin and eye contact.
Ensure adequate ventilation following completion of clean-up and containment procedures.

6.2 Environmental precautions

Do not release the leakage directly to the rivers or sewage.
For environmental exposure, contact relevant environmental protection agencies.

6.3 Methods and material for containment and cleaning up

Stop further leaks/spills if safe to do so.
Carefully sweep scattered product into a suitable empty sealable container for disposal.

6.4 Reference to other sections

For details on extinguishing media, see Section 5
For details on personal protection, see Section 8.
For details disposal of waste from clean up operations, see Section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Utilise engineering controls and wear protective gloves/protective clothing/eye protection/face protection as specified in "Section 8 Exposure controls/personal protection".
Obtain special instructions before use.
Use in a well-ventilated area.
Do not eat, drink and smoke in work areas.
Wash hands, face, etc thoroughly and rinse mouth after handling.

Take off contaminated clothing and wash before reuse.
Avoid release to the environment. Do not allow to enter drains, sewers or watercourses.
Avoid breathing dust.
Avoid skin and eye contact.
Do not ingest.
Avoid accumulation of dust.
Avoid contact with strong oxidizing agents.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed.
Store in a cool, dry, dark and well-ventilated place indoors.
Protect from direct sunlight.

SECTION 8: Exposure controls / personal protection

8.1 Control parameters

8.1.1 Occupational exposure limits:

ACGIH: No TLV established. It is recommended that airborne concentrations be kept below 3 mg/m³ (respirable particles) and 10 mg/m³ (inhalable particles) for insoluble particles of low toxicity for which no TLV has been established. See Appendix B of the TLV booklet for guidelines.

OSHA: Particulates Not Otherwise Regulated (PNOR) 15 mg/m³ (total dust), 5 mg/m³ (respirable fraction).

NIOSH: Not established.

8.2 Exposure controls

8.2.1 Appropriate engineering control

Handle the product where total ventilation is installed.
Install closed or local exhaust ventilation if dust is produced.
Install hand/eye wash and shower facilities near work area.

8.2.2 Personal protection equipment

Respiratory protection:	Dust mask, simple dust mask, dust respirator, etc. Follow the OSHA respirator regulations found in 29 CFR 1910.134.
Eye/face protection:	Wear protective glasses, chemical goggles or face protector as described by OSHA's eye and face protection regulations in 29 CFR 1910.133
Skin protection (Hand protection/ Other):	Wear protective gloves made of rubber. Follow OSHA's hand protection regulations in 29 CFR 1910.138.
Skin and body protection:	Protective work clothing such as an apron, suit, boots, long sleeve trousers and shirts.
Hygiene measures:	Wash the hands thoroughly after handling. Wash contaminated clothing before reuse. Do not eat, drink or smoke in the work area. Consult PPE manufactures concerning breakthrough times.

Handle in accordance with good industrial hygiene and safety practice.

8.2.3 Environmental exposure controls

Do not allow to enter drains, sewers or watercourses.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance:	Solid.
Color:	Colorless, clear.
Odor:	Odorless.
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	240°C.
Boiling point:	No data available.
Initial boiling point and boiling range:	No data available.
Flash point:	345 – 360°C.
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower flammability or explosive limits:	No data available.
Vapor pressure:	No data available.
Vapor density:	No data available.
Relative density:	1.04~1.13.
Specific gravity density:	No data available.
Solubility:	Water: insoluble. Soluble in benzene, pyridine, dichloromethane, etc.
Partition coefficient (n-octanol/water):	Not applicable; Insoluble.
Auto-ignition temperature:	427°C
Decomposition temperature:	No data available.
Viscosity:	No data available.
Explosive properties:	No data available.
Oxidizing properties:	No data available.

9.2 Other information No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity	May form combustible dust concentrations in air.
10.2 Chemical stability	Stable under ordinary handling and storage temperatures and pressures.
10.3 Possibility of hazardous reactions	May react with oxidants.
10.4 Conditions to avoid	Avoid contact with sources of ignition.

10.5 Incompatible materials	Oxidizing agents.
10.6 Hazardous decomposition products	Product undergoing thermal decomposition may release irritating and toxic gases.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity (Oral): Polystyrene:	Not classified. Rat LC50 (30min) 56.6g/m ³ (RTECS) , Mouse LC50 (10min) 120mg/m ³ (DOSE)
Acute toxicity (Dermal):	Classification not possible due to lack of data.
Acute toxicity (Inhalation):	Classification not possible due to lack of data.
Skin corrosion/irritation:	Classification not possible due to lack of data.
Serious eye damage/ irritation: Polystyrene:	Not classified. Eye contact (dust): May cause mild eye irritation (MSDS-OHS) Eye contact (fume): May cause eye irritation or lacrimation (MSDS-OHS)
Respiratory or skin sensitization	
Respiratory sensitization:	Classification not possible due to lack of data.
Skin sensitization:	Classification not possible due to lack of data.
Germ cell mutagenicity:	Classification not possible due to lack of data.
Carcinogenicity: Polystyrene:	Not classified. IARC Group 3 (Not classifiable as to its carcinogenicity to humans)
Reproductive toxicity:	Classification not possible due to lack of data.
STOT- single exposure: Polystyrene:	Not classified. Mouse, Intratracheal toxicity test: Effects on the respiratory tract; effects on dehydrogenase, etc. (MSDS-OHS) Inhalation exposure (dust): high concentrations: May cause irritation or cough (MSDS-OHS) Inhalation exposure (fume): May cause irritation of the nose, throat, or lung (MSDS-OHS)
STOT- repeated exposure: Polystyrene:	Not classified. Rat, 2-week intravenous toxicity test: Abnormal liver function test results; effects on protein metabolism (RTECS) Rat, Long-term inhalation toxicity test (dust): Growth retardation; changes in red or white blood cells, Increased liver weight; mild pneumonia (MSDS-OHS)

Aspiration hazard:	Classification not possible due to lack of data.
Target Organs:	None known.
Route(s) of entry/exposure:	Dermal, oral, eyes, inhalation.
Potential Health Effects	
Inhalation	
Acute (Immediate):	No data available.
Chronic (Delayed):	No data available.
Skin	
Acute (Immediate):	No data available.
Chronic (Delayed):	No data available.
Eye	
Acute (Immediate):	No data available.
Chronic (Delayed):	No data available.
Ingestion	
Acute (Immediate):	No data available.
Chronic (Delayed):	No data available.
Symptoms related to the physical, chemical and toxicological characteristics:	
No data available.	

SECTION 12: Ecological information

12.1 Toxicity

Acute aquatic toxicity: Classification not possible due to lack of data.

Chronic aquatic toxicity: Classification not possible due to lack of data.

12.2 Persistence and degradability

Polystyrene: Biodegradation test (28 days): Non-biodegradable (J-CHECK)

12.3 Bioaccumulative potential

Polystyrene: Bioconcentration test (common carp, 8 weeks) low Bioconcentration potential (J-CHECK)

12.4 Mobility in soil

No data available.

12.5 Other adverse effects

Hazardous to the ozone layer: Classification not possible due to lack of data.

SECTION 13: Disposal considerations

13.1 Disposal methods

13.1.1 Residual wastes

Contract a professional industrial waste recycler or processor licensed by the local government for appropriate disposal in accordance with relevant laws and regulations.

13.1.2 Contaminated containers and packaging

When disposing of empty contaminated containers and packaging, remove all contents and then entrust an industrial waste recycler and processor certified by the local government to dispose of properly in accordance with relevant laws and regulations.

13.1.3 Other information

Disposal of residual waste, contaminated containers and packaging should be done so in accordance with federal, state and international regulations.

SECTION 14: Transport information

14.1 UN number	Not applicable; not regulated as dangerous goods.
14.2 UN Proper Shipping Name	Not applicable.
14.3 Transport hazard class(es)	Not applicable.
14.4 Packing Group	Not applicable.
14.5 Environmental hazards	Not applicable.
14.6 Special precautions for user	None.
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.

MFAG number	It is recommended to handle in accordance with MFAG-No 171.
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SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the product

TSCA list	All components of this product are listed on the TSCA Inventory.
OSHA Hazards	This product is not considered hazardous under OSHA 29CFR1910.1200.
CERCLA Reportable Quantity	Not listed.
SARA 304 Extremely Hazardous Substances Reportable Quantity:	Not listed.
SARA 302:	Not listed.
SARA 311 / 312	Not listed.
SARA 313	Not listed.

Clean Air Act

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

This product does not contain any substance which is listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any substance which is listed under the U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain substances which are listed under the U.S. Clean Water Act, Section 311, Table 116.4A.

This product does not contain substances which are listed under the U.S. Clean Water Act, Section 311, Table 117.3.

This product does not contain substances which are listed under the U.S. Clean Water Act Section 307

Massachusetts Right To Know

This product does not contain substances which are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know

This product does not contain substances which are subject to the Pennsylvania Right to Know Act.

New Jersey Right To Know

This product does not contain substances which are subject to the New Jersey Right to Know Act.

California Prop 65

This does not contain any substance which is known to State of California to cause cancer or reproductive toxicity.

SECTION 16: Other Information

Date of preparation of SDS: 10 October 2023

References:

Hazard Communication Standard (HCS) (29 CFR 1910.1200(g)).

ABBREVIATIONS

IARC: International Agency for Research on Cancer

LC50: Lethal concentration; 50%

STOT: Specific target organ toxicity

Other information

This Material Safety Data Sheet applies to SL-105, SM-105 and SH-75 kit components. SL-105 (10 types), SM-105 (10 types), SH-75 (7 types)

Disclaimer: The information in this SDS was obtained from sources which we believe to be reliable, but no warranty or representation regarding the accuracy or completeness is hereby given. All materials may present unknown hazards and should be used with extreme caution. Final determination of suitability of any material is the sole responsibility of the user. Users must perceive information here only as an addition to the information collected by themselves and must decide for itself the suitability and completeness of information from all sources to ensure the correct use and disposal, the safety and health of employees and customers and environmental protection.