

**Section-1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE
 AND OF THE COMPANY/UNDERTAKING**

1.1 Identification of the substance/mixture:

Commercial name : Relflex Stylamer SBR (SBR1500, SBR1502, SBR1509)
 Chemical name : Styrene-Butadiene copolymer emulsion polymerized (E-SBR)
 Synonyms : NA

1.2 Use of the substance /mixture: Production of various rubber final applications

1.3 MANUFACTURER & SUPPLIER: Reliance Industries Limited
Emergency Coordination Centre contact details:

Hazira Mfg. Division, Village-Mora, Post-Bhatha, Surat-Hazira road, Surat Dist: Surat, Gujarat, India, 394510	SSM Office	Phone numbers +91 261-3535050/+91 261-3535056 +91 261-6635050/+91 261-6635056 Mob: +91 9974823636
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SSM: Site Shift Manager

Section 2 – HAZARD IDENTIFICATION

2.1 Classification of the substance/mixture: Hazard class and category code.

GHS Category:

Health	Environmental	Physical
The product's fines may cause irritation of eyes.	Aquatic Toxicity – Category- NA	Flammable – Category - NA

NA: Not available

Data reference: Official Journal of the European Union regarding EU GHS

GHS Category table for reference:

Study/hazard statement	Category 1	Category 2	Category 3	Category 4	Category 5
Acute Oral LD50	≤5 mg/kg Fatal if swallowed	> 5 ≤50 mg/kg Fatal if swallowed	> 50 ≤300 mg/kg Toxic if swallowed	> 300 ≤2000 mg/kg Harmful if swallowed	> 2000 ≤ 5000mg/kg May be harmful if swallowed
Acute Dermal LD50	≤50 mg/kg Fatal in contact with skin	> 50 ≤200 mg/kg Fatal in contact with skin	> 200 ≤1000 mg/kg Toxic in contact with skin	> 1000 ≤2000 mg/kg Harmful in contact with skin	> 2000 ≤5000 mg/kg May be harmful in contact with skin
Acute Inhalation Dust LC50 Gases LC50 Vapours LC50	≤0.05 mg/L ≤100 ppm/V ≤0.5 mg/L Fatal if inhaled	> 0.05 ≤0.5 mg/L > 100 ≤500 ppm/V >0.5 ≤2.0 mg/L Fatal if inhaled	> 0.5 ≤1.0 mg/L > 500 ≤2500 ppm/V > 2.0 ≤10 mg/L Toxic if inhaled	> 1.0 ≤5 mg/L >2500 ≤20000 ppm/V > 10 ≤20 mg/L Harmful if inhaled	See footnote below this table
Flammable liquids	Flash point < 23 degrees C and initial boiling point ≤35 degrees C. Extremely flammable liquid and vapour	Flash point < 23 degrees C and initial boiling point > 35 degrees C. Highly flammable liquid and vapour	Flash point ≥23 degrees C ≤60 degrees C. Flammable liquid and vapour	Flash point > 60 degrees C ≤93 degrees C. Combustible liquid	Not Applicable

Note: Gases concentration are expressed in parts per million per volume (ppmV).

NOTE 1: Category 5 is for mixtures which are of relatively low acute toxicity but which under certain circumstances may pose a hazard to vulnerable populations. These mixtures are anticipated to have an oral or dermal LD50 value in the range of 2000-5000 mg/kg bodyweight or equivalent dose for other routes of exposure. In light of animal welfare considerations, testing in animals in Category 5 ranges is discouraged and should only be considered when there is a strong likelihood that results of such testing would have a direct relevance for protecting human health.

NOTE 2: These values are designed to be used in the calculation of the ATE for classification of a mixture based on its ingredients and do not represent test results. The values are conservatively set at the lower end of the range of Categories 1 and 2, and at a point approximately 1/10th from the lower end of the range for Categories 3 – 5.

GHS Category table for reference: Continued

(Material) Safety Data Sheet

Issue Date: Nov 15, 2022

Supersedes: Aug 27, 2019

**Styrene-Butadiene copolymer
Emulsion polymerized Dry Grade
(SBR1500, SBR1502, SBR1509)**

Study/hazard statement	Category 1	Category 2	Category 3
Eye Irritation	Effects on the cornea, iris or conjunctiva that are not expected to reverse or that have not fully reversed within 21 days. Causes severe eye damage.	2A: Effects on the cornea, iris or conjunctiva that fully reverse within 21 days. Causes severe eye irritation. 2B : Effects on the cornea, iris or conjunctiva that fully reverse within 7 days. Causes eye irritation.	Not applicable
Skin Irritation	Destruction of skin tissue, with sub categorization based on exposure of up to 3 minutes (A), 1 hour (B), or 4 hours (C). Causes severe skin burns	Mean value of $\geq 2.3 > 4.0$ for erythema / eschar or edema in at least 2 of 3 tested animals from gradings at 24, 48, and 72 hours (or on 3 consecutive days after onset if reactions are delayed); inflammation that persists to end of the (normally 14-day) observation period. Causes skin irritation.	Mean value of $\geq 1.5 < 2.3$ for erythema / eschar or edema in at least 2 of 3 tested animals from gradings at 24, 48, and 72 hours (or on 3 consecutive days after onset if reactions are delayed). Causes mild skin irritation.
Environment: Acute Toxicity Category	96 hr LC ₅₀ (fish) ≤ 1 mg/L 48 hr EC ₅₀ (crustacea) ≤ 1 mg/L, 72/96 hr ErC ₅₀ (aquatic plants) ≤ 1 mg/L Very toxic to aquatic life	96 hr LC ₅₀ (fish) $> 1 \leq 10$ mg/L 48 hr EC ₅₀ (crustacea) $> 1 \leq 10$ mg/L 72/96 hr ErC ₅₀ (aquatic plants) $> 1 \leq 10$ mg/L Toxic to aquatic life	96 hr LC ₅₀ (fish) $> 10 \leq 100$ mg/L 48 hr EC ₅₀ (crustacea) $> 10 \leq 100$ mg/L 72/96 hr ErC ₅₀ (aquatic plants) $> 10 \leq 100$ mg/L Harmful to aquatic life
Flammable Aerosol	Extremely flammable aerosol	Flammable aerosol	Not Applicable
Flammable solids	Using the burning rate test, substances or mixtures other than metal powders: (a) wetted zone does not stop fire and (b) burning time < 45 seconds or burning rate > 2.2 mm/second Using the burning rate test, metal	Using the burning rate test, substances or mixtures other than metal powders: (a) wetted zone does not stop fire for at least 4 minutes and (b) burning time < 45 seconds or burning rate > 2.2 mm/second Using the burning rate test, metal powders that have burning time $> 5 \leq 10$ minutes Flammable solid	Not Applicable
Flammable gases	Gases, which at 20 degrees C and a standard pressure of 101.3 kPA: are ignitable when in a mixture of 13% or less by volume in air; or have a flammable range with air of at least 12 percentage points regardless of the lower	Gases, other than those of category 1, which, at 20 degrees C and a standard pressure of 101.3 kPA, have a flammable range while mixed in air. Flammable gas	Not Applicable

GHS Label: None

Signal word: None

Details of statements:

Hazard Statements	The product's fines may cause irritation of eyes
Precautionary Statement <u>Prevention</u>	Wear eye and dust mask while handling
Precautionary Statement Response	Not Applicable
Precautionary Statement Storage	Not Applicable
Precautionary Statement Disposal	Follow local regulation

2.2 Information pertaining to particular dangers for human: The preparation is not hazardous in the form in which it is placed on the market and under the normal and recommended conditions of storage and use. See also sections 4 and 11

2.3 Information pertaining to particular dangers for the environment: The preparation is stable under normal conditions of storage and use. It is not hazardous to the environment in its normal state

2.4 Other adverse effects: Not Applicable

Route of entry:

Skin Contact	Skin Absorption	Eye Contact	Inhalation	Ingestion
No	No	Yes	Yes	Yes

DATA REFERENCE: Licensor's Data

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(SBR1500, SBR1502, SBR1509)**

Health hazards:

Source	NTP listed?	IARC cancer review group?	OSHA Regulated?
Carcinogenicity	No	No	No

DATA REFERENCE: Toxic release inventory (TRI) basis of Occupational Safety and Health Administration (OSHA) carcinogen, National Toxicological program (NTP), International Agency for Research on Cancer (IARC), Licensor's Data.

Section 3 – COMPOSITION & INFORMATION ON INGREDIENTS

The preparation is a "Mixture" essentially composed of copolymer and of substances below the applicable classification limits or not hazardous.

Copolymer : Styrene Butadiene, CAS No. : 9003-55-8

Data reference: Licensor's Data

Section 4 – FIRST AID MEASURES

4.1 General advice: No special measures required.

IMMEDIATE MEDICAL ATTENTION IS REQUIRED AFTER INHALATION OR AFTER SWALLOWING.

In case of health troubles or doubts, seek medical advice immediately and show this (Material) Safety Data Sheet.

4.2 Inhalation

Dust or gas/vapours released by heat: move the affected person away from the contaminated area into fresh air; seek medical assistance.

SYMPTOMS AND EFFECTS: irritation of the respiratory organs. Eyes reddening.

4.3 Skin contact

In case of contact with melted material, cool down with cold water and seek medical assistance. Do not remove the product that solidified on skin. Treat as a burn.

4.4 Eye contact

Rinse opened eye for several minutes under running water.

4.5 Swallowing

No specific measure requested in case of ingestion. If needed seek medical assistance.

Section 5 – FIRE FIGHTING MEASURES

5.1 Suitable extinguishing media:

Water in the form of spray is the best extinguishing media to apply . However, Foam, CO2 or dry chemical powder can also be used.

5.2 Extinguishing media to be avoided:

Water in the form of Jet.

5.3 Caution about specific danger in case of fire and fire-fighting procedures:

When burning, it emits carbon monoxide, carbon dioxide and irritant fumes. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

5.4 Special protective equipment for fire-fighters:

Wear self-contained breathing apparatus and full protective fire-resistant clothing.

Section 6 – ACCIDENTAL RELEASE MEASURES

6.1 Person-related safety precautions:

Wear dust mask in case of fines.

6.2 Precautions for protection of the environment:

No special measures required.

6.3 Recommended methods for cleaning and disposal:

Collect mechanically. Reuse if possible or dispose of as required by national and local regulations (see section 13).

Section 7 – HANDLING AND STORAGE

7.1 Information for safe handling:

Use gloves and safety glasses. Avoid contact with sources of ignition. Elevated processing temperatures may result in some degree of thermal degradation: as a guideline 200°C is the maximum allowed temperature for very short time. During the processing of the product, avoid inhalation of fumes or powders, by providing good ventilation of the workroom and, if necessary, by a suitable exhaust system.

Comply with personal hygiene measures and use the personal protective equipment (see chapter 8). Do not smoke, eat or drink in the workplace. Re-seal opened containers.

No special measures required.

Information about fire and explosion protection:

The product is a poor conductor and it is likely to accumulate electrostatic charges. Precautions normally used for not conductive materials and against the accumulation of electrostatic charges should be used during processes which employ powdered materials or produce dust (e.g.: reduce speed to the minimum, install earthing systems, the absolute prohibition to smoke and use free flames, use N2 for blanketing).

7.2 Information for storage:

Store the product in a covered place away from direct sunlight and heat sources. Ensure the proper ventilation in all storage areas.

7.3 Information for specific use:

No further relevant information available.

Section 8 – EXPOSURE CONTROL & PERSONAL PROTECTION

8.1 Occupational Exposure Limits:

Data not available

8.2 Occupational exposure controls:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Respiratory protection:

In normal conditions masks with anti-dust filters should be available for use when requested.

Eye protection:

Safety goggles

Hand protection:

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves: The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from grade to grade. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

Body protection: Standard work clothes.

Hygiene Measures: Work rooms must be provided with adequate ventilation and exhaust equipment to collect rubber fines and gas/vapours that may be evolved during the conversion.

8.3 Environmental exposure controls:

Proceed in accordance with valid air and water legislative regulations.

Engineering measures: NA

Section 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Form	Bales
: Colour	Amber coloured
Odour	Light
pH Value	Not Applicable
Melting Point	Not Determined
Boiling Point	Not Determined
Flash point °C	Not Applicable
Flammability (Solid, Gases)	Not Determined
Ignition Temperature	>300°C
Decomposition Temp	>200°C
Self-igniting	Product is not self-igniting
Danger of explosion	Product does not present an explosion hazard.
Explosion Limit: Lower:	Not Determined
: Upper:	Not Determined
Vapour Pressure	Not Applicable
Density at 20°C	~0.94 gm./cm ³
Relative Density	Not Determined
Vapour Density	Not Applicable
Evaporation Rate	Not Applicable
Solubility in water	Insoluble
Segregation coefficient (n-Octanol/water)	Not Determined
Viscosity cP @20 °C: Dynamic:	Not Applicable
: Kinematic:	Not Applicable
Solvent Content: Organic Solvent:	0.0%
Other Information	No further relevant information available

DATA REFERENCE: Licensor's data

Section 10 – CHEMICAL STABILITY AND REACTIVITY INFORMATION

10.1 Reactivity : The product does not participate to dangerous reactions if stored and handled as prescribed/handled.

10.2 Chemical stability :

Thermal decomposition – Observe the recommended processing temperatures. The product is stable and inert in the recommended storage and handling conditions (see section 7).

10.3 Possibility of hazardous reactions: No dangerous reactions known.

10.4 Conditions to avoid: Exposure to sunlight and/or heat. Accumulation of electrostatic charges.

10.5 Material to avoid: Avoid the contact with oxidising substances.

10.6 Hazardous decomposition products: No dangerous decomposition products known.

Section 11 – TOXICOLOGICAL INFORMATION

Information on toxicological effects

11.1 Acute effects

Acute toxicity:

Primary irritant effect:

On the skin: No irritant effect.

On the eye: The product's fines may cause irritation of eyes.

Data Reference: Licensor's data

11.2 Repeated dose toxicity: Not Applicable

11.3 Sensitisation: No sensitizing effects known.

11.4 Additional toxicological information: The product does not present any intrinsic health hazard when processed according to correct working procedures. Specific information on the product is not available in the literature. Residual monomers may be present in the product at trace levels, hindered in the polymer matrix and therefore not available in normal conditions.

The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version. When used and handled according to specifications, the product does not have any harmful effects to our experience and the information provided to us.

11.5 CMR effects (carcinogenicity, mutagenicity, toxicity for reproduction) No evidence of these effects has been reported.

11.6 toxicokinetic, metabolism, distribution: Not Applicable

Section 12 – ECOLOGICAL INFORMATION

12.1 Ecotoxicity data: Not Applicable

12.2 Aquatic Toxicity: No further relevant information available.

12.3 Persistence and degradability: The product is essentially a high molecular weight polymer, not regarded as ecotoxic.

Other Information: The preparation is not a biodegradable polymer.

Behaviour in environmental systems:

12.4 Bio-accumulative potential: Does not accumulate in organisms

12.5 Mobility in Soil: No further relevant information available.

Additional ecological information:

General notes: Use according to good working practice, and avoid releasing the product into the environment.

12.6 Results of PBT and vPvB assessment Persistence and Degradation: Not Applicable.

12.7 Other adverse effects: No further relevant information available.

Environmental Fate: Not Applicable

Section 13– DISPOSAL CONSIDERATION

Legislation: Disposal should be in accordance with applicable regional, national, and local laws and regulations. This product should not be dumped, spilled, rinsed or washed into sewers or public waterways.

The same safety consideration applies to scraps/waste as apply to the product as it is. Residue should be disposed of as required by national and local regulations.

13.1 Disposal methods after declared Shelf life

- Re-evaluate quality parameters after declared shelf-life is over.
- If found okay, proceed to consume under supervision and as per internal guideline.
- If found not okay, proceed to supply as input material to rubber reclaim industries and approved co-processors/incinerators.

Waste treatment methods

13.2 Recommendation:

The reclamation, co-processing/incineration must be done under approved conditions, possibly with energy recovery and only at suitable facilities equipped with a scrubber for the treatment of fumes before their release into the atmosphere.

After suitable treatment (cleaning, grinding, etc.), the product can be safely re-used, as is or mixed with fresh material, when this is compatible with the intended final application.

Landfilling should be avoided as far as possible. If unavoidable, use approved landfill sites.

Uncleaned packaging:

13.3 Recommendation: Disposal must be made according to official regulations.

13.5 Recommended cleansing agents: Water, if necessary together with cleansing agents.

13.5 Recommended cleansing agents: Water, if necessary together with cleansing agents.

13.6 Waste regulation: Follow local regulation.

Section 14– TRANSPORT INFORMATION

International Transport Regulation:

ADR/RID (Road/Rail), IMDG (Sea) and ICAO/IATA (Air): The preparation is not classified as dangerous for the transport according to the following regulations: ADR/RID, IMO, IATA.

14.1

Proper Shipping Name: Not Defined

Hazard Class: Not Defined

UN Number: Not Defined

Emergency Action Code: Not Defined

14.2 Special transport precautionary measures: None

Section 15– REGULATORY INFORMATION

(M)SDS format on a 16 Section based on guidance provided in:

Indian Regulation:

Manufacture, Storage and Import of Hazardous Chemicals Rule, 1989.
The Factories Act 1948

International Regulations:

European SDS Directive

ANSI MSDS Standard

ISO 11014-1 1994

WHMIS Requirements

United States

Hazard Communication Standard

Canada

Hazardous Products Act and Controlled Products Regulations

Europe

Dangerous Substance and Preparations Directives

Australia

National Model Regulations for the Control of Workplace Hazardous Substances

The Globally Harmonized System of Classification and Labeling of Chemicals endorsed by The UN Economic and Social Council

*RISK PHRASES: None

*SAFETY PHRASES: None

*These standard risk and safety phrases for use when interpreting (Material) Safety data Sheets are derived from the European Union Regulation, CHIP Regulations - Chemicals (Hazard Information and Packaging for Supply). They are required to be used in (Materials) Safety Data Sheets to identify potential hazards and offer safe handling advice.

Section 16 – OTHER INFORMATION

Training instructions :

Personnel handling the product has to be acquainted demonstrably with its hazardous properties, with health and environmental protection principles related to the product and first aid principles.

Tremcard details/Reference: Refer Section 14

Local bodies involved (Applicable only with in India): Local District Authority and Local Crisis Group

Sources of data used to compile the (Material) Safety Data Sheet

Data compilation reference: Licensor's Data

(M)SDS Revision Status:

Date of Revision	Revised Sections	Supersedes
Aug 14, 2014	None as First Issue	None
July 27,2016	Format Change	Aug 14, 2014
Aug 27, 2019	No change	July 27, 2016
Nov 15 2022	Section 5 & Section 13	Aug 27,2019

This (M) SDS is issued by the Centre for HSE Excellence, Reliance Industries Limited

Contact Details: For any enquiry/comment regarding this (Material) Safety Data Sheet, kindly contact the Centre for HSE Excellence at HSE.ExcellenceCentre@ril.com

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End of (M)SDS