

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

**1.1 Identification of the substance/mixture:**

**Commercial name** : Reflex Stylamer SBR (SBR1723, SBR1739)  
**Chemical name** : Styrene-Butadiene copolymer -emulsion polymerized (E-SBR)  
 extended with TDAE Oil  
**Synonyms** : Styrene-Butadiene copolymer emulsion polymerized with Oil

**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
None	None	Flammable Category – Not Classified

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
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	Flash point < 23 degrees C and initial boiling point > 35 degrees C. Highly flammable	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

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 and eye damage.	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 LC50 (fish) $\leq 1$ mg/L 48 hr EC50 (crustacea) $\leq 1$ mg/L, 72/96 hr ErC50 (aquatic plants) $\leq 1$ mg/L Very toxic to aquatic life	96 hr LC50 (fish) $> 1 < 10$ mg/L 48 hr EC50 (crustacea) $> 1 < 10$ mg/L 72/96 hr ErC50 (aquatic plants) $> 1 < 10$ mg/L Toxic to aquatic life	96 hr LC50 (fish) $> 10 < 100$ mg/L 48 hr EC50 (crustacea) $> 10 < 100$ mg/L 72/96 hr ErC50 (aquatic plants) $> 10 < 100$ 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 powders that have burning time $\leq 5$ minutes Flammable solid	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 $> 5 < 10$ minutes Flammable solid	Not Applicable
Flammable gases	Gases, which at 20 degrees C and a standard pressure of 101.3 kPA: (a) are ignitable when in a mixture of 13% or less by volume in air; or (b) have a flammable range with air of at least 12 percentage points regardless of the lower flammable limit. Extremely flammable gas	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 Prevention	Wear eye and dust mask while handling
Precautionary Statement Response	Not Applicable
Precautionary Statement Storage	Not Applicable
Precautionary Statement Disposal	Follow local regulation

This product is classified as not dangerous as it meets the Directive 2005/69/EC and Annex XVII Reg. EC 1907/2006.

**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

**(Material) Safety Data Sheet**

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**Styrene-Butadiene copolymer  
Emulsion polymerized with TDAE Oil  
(SBR1723, SBR1739)**

**Health hazards:**

Source	Directive 2005/69/EC and Annex XVII Reg. EC 1907/2006 (REACH)
Carcinogenicity	None

DATA REFERENCE: TDAE Oil MSDS from Vendor & COA of Vendor

**Section 3 – COMPOSITION & INFORMATION ON INGREDIENTS**

Ingredients / Hazardous	CAS No.	Percentage
Styrene Butadiene Copolymer	9003-55-8	~ 66-68%
TDAE Oil	64741-88-4 / 68783-04-0	~ 27 %

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**

Move the affected person away from the contaminated area into fresh air; seek medical assistance.

**SYMPTOMS AND EFFECTS:** Fines or gas/vapors released, which can lead to irritation of the respiratory organs.

**4.3 Skin contact**

Wash with plenty of water. 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.

**SYMPTOMS AND EFFECTS:** Fines can irritate skin. No effect expected by contact with the elastomer at room temperature. Melted product cause burns.

**4.4 Eye contact**

Wash with plenty of water. If irritation persists, seek medical assistance.

**SYMPTOMS AND EFFECTS:** Fines or gas/vapors released which can lead to red eyes.

**4.5 Swallowing**

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

**SYMPTOMS AND EFFECTS:** Abdominal pain.

**Specific and immediate treatment means to be available at the workplace:**

Eye wash fountain.

**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:

See section 8.

### 6.2 Precautions for protection of the environment:

Keep fines away from drains. Do not release into the environment.

### 6.3 Recommended methods for cleaning and disposal:

Collect mechanically. Reuse if possible or dispose off 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 N<sub>2</sub> for blanketing).

### 7.2 Information for storage:

Store the preparation in a covered place away from sunlight and heat sources.

Ensure the proper ventilation in all storage areas.

### 7.3 Information for specific use:

Not Applicable.

## Section 8 – EXPOSURE CONTROL & PERSONAL PROTECTION

### 8.1 Occupational Exposure Limits:

Data not available

### 8.2 Occupational exposure controls:

Traces of monomers and others volatile substances may be given off during processing, particularly at unusually high processing temperatures.

Work rooms must be provided with adequate ventilation and exhaust equipment to collect fines and gas/vapour that may be emitted during the conversion.

### Equipment to provide adequate and personal protection:

#### Respiratory protection:

In normal conditions nose masks should be available to be used when requested.

#### Eye protection:

Use safety goggles.

#### Hand protection:

Chemical substances resistant gloves.

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**Body protection:** Standard work clothes.

**Hygiene Measures:** No smoking, eating or drinking in the workplace.  
Wash hands thoroughly before eating, drinking.

**8.3 Environmental exposure controls:**

Proceed in accordance with valid air and water legislative regulations.

**Engineering measures:** Provide adequate ventilation in the area

**Section 9 –PHYSICAL AND CHEMICAL PROPERTIES**

Appearance: Physical State /Form	Solid/Bales
: Colour	Dark Brown/Grey
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	~0.95 gm./cm <sup>3</sup>
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%

DATA REFERENCE: Licensor's data

**Section 10 –CHEMICAL STABILITY AND REACTIVITY INFORMATION**

The preparation is stable and inert in the recommended storage and handling conditions (see section 7).

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

**AIR AND WATER REACTIONS:** Not Applicable

**REACTIVE GROUPS:** Not Applicable

**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.

**10.1 Hazardous decomposition products:** see section 5.

Comply with the advised processing temperatures to avoid the formation of noxious

## Section 11 – TOXICOLOGICAL INFORMATION

### Information on toxicological effects

**11.1 Acute toxicity:** Based on available data, the classification criteria are not met.

**Primary irritant effect:**

**On the skin:** Based on available data, the classification criteria are not met

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

**Additional toxicological information:** Specific information on the preparation is not available in the literature. Residual monomers are present in the product at trace level, hindered in the elastomer matrix and therefore not available in normal conditions.

**11.2 Dangerous effects from exposure to the preparation:** The possible fines may cause irritation to the eyes and/or respiratory organs.

The elastomer does not present any intrinsic health hazard when processed according to correct working procedures.

**Data Reference:** Licensor's data

**11.3 Repeated dose toxicity:** Not Available

**11.4 Sensitisation:** Not Available

**11.5 CMR effects (carcinogenicity, mutagenicity, toxicity for reproduction):** no evidence of these effects has been reported for the preparation.

**11.6 Toxicokinetics, metabolism, distribution:** Not Applicable

## Section 12 – ECOLOGICAL INFORMATION

**12.1 Ecotoxicity data:** The preparation is essentially a high molecular weight polymer, not regarded as ecotoxic.

**12.2 Aquatic Toxicity:** No further relevant information available.

**12.3 Persistence and degradability:** The preparation is not a biodegradable polymer.

**12.4 Bio accumulative potential:** Does not accumulate in organisms

**12.5 Mobility in Soil:** 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.



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**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

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\*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 (Material) 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
Dec 01, 2015	None as First Issue	None
Sept 11, 2019	No Change	Dec 01, 2015
Sept 10, 2023	Section 5 & Section 13	Sept 11,2019
Nov 27, 2024	Section 3	Sept 10, 2023

**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](mailto:HSE.ExcellenceCentre@ril.com)**

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