

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

1.1 Identification of the substance/mixture:

Commercial name: Relflex Stylamer SBR (SBR1712, SBR1721)

Chemical name: Styrene-Butadiene copolymer emulsion polymerized with Aromatic Oil

Synonyms: Styrene-Butadiene copolymer emulsion polymerized with Aromatic 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
Carcinogen category –1B	Aquatic Toxicity – Category- 3	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 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

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 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 powders that have burning time ≤ 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 $> 5 \leq 10$ 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: GHS08: Carcinogen.



Signal word: Danger

Details of statements:

Hazard Statements	H350: May cause cancer
Precautionary Statement Prevention	P103: Read label before use. P201: Obtain special instructions before use. P202: Do not handle until all safety precautions have been read and understood. P281: Use personal protective equipment as required.
Precautionary Statement Response	P308 + P313: IF exposed or concerned: Get medical advice/attention.
Precautionary Statement Storage	P405: Store locked up.
Precautionary	Follow local regulation

Statement Disposal	
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This product is classified as dangerous according to Directive 1999/45 and following amendments. See section 15.

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
Yes	No	Yes	No	Yes

DATA REFERENCE: Licensor's Data

Health hazards:

Source	EU Regulation-1272_2008_EC_GHS
Carcinogenicity	May cause cancer

DATA REFERENCE: EU Regulation-1272_2008_EC_GHS

Section 3 – COMPOSITION & INFORMATION ON INGREDIENTS

Ingredients / Hazardous	CAS No.	Percentage
Styrene Butadiene Copolymer	9003-55-8	66-70%
Extracts (Petroleum), residual oil solvents (DAE)	64742-04-7	~ 28.5%

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/vapours 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/vapours released which can lead to reddened 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, water spray, foam, dry chemicals, carbon dioxide.

Cool down the containers using water spray.

5.2 Extinguishing media to be avoided:

Not Applicable

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

The preparation, when involved in a fire, burns with a sooty flame and release fumes made up of water, carbon dioxide, carbon monoxide (when starved of oxygen).

Overheating/pyrolysis evolve vapours made up of monomers, low molecular weight polymers and their oxidation products.

5.4 Special protective equipment for fire-fighters:

Use suitable personal protective equipment (self-contained breathing apparatus, helmet, goggles, fire resistant gloves, boots).

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:

During processing, ventilation should be ensured and suitable exhaust systems should be in place.

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.

The preparation is a poor conductor and it is likely to accumulate electrostatic charges. Precautions normally used for materials not conductive and against the accumulation of electrostatic charges should be used during processes which employ powdered materials or produce fines (e.g.: reduce speed to the minimum, install

earthing systems, the absolute prohibition to smoke and use free flames, use inert gases in mills and in the closed systems).

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

7.2 Information for storage:

Store the preparation in a covered place in sealed packaging, 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/vapours 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.

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 at 23°C	Solid
: Form	Bales
: Colour	Brown/Black
Odour	Light Characteristic
Density at 20°C	0.96-1.13 gm./cm ³
Bulk Density	Not Applicable
Softening temperature	Not Applicable
Autoflammability	>300°C
Decomposition Temp °C	>200°C
Solubility in water	Insoluble
Solubility with other solvents	Hexane, Chloroform.

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

10.2 Possibility of hazardous reactions: No dangerous reactions known.

Conditions to avoid: No further relevant information available.

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

AIR AND WATER REACTIONS: Not Applicable

REACTIVE GROUPS: Not Applicable

10.4 Hazardous decomposition products: see section 5).

Comply with the advised processing temperatures to avoid the formation of noxious gas and vapours.

Section 11 –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.

11.1 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

11.2 Repeated dose toxicity: Not Available

11.3 Sensitisation: Not Available

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

11.5 Toxicokinetics, metabolism, distribution: Not Applicable

Section 12 –ECOLOGICAL INFORMATION

12.1 Ecotoxicity data:

Parameter	Route	Species	Values	Exposure period	Condition of bioassay
LC50	Inhalation	Onchorhynchus	>1000 mg/l	96 hours	Static

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 Bioaccumulative 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

Local 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.

For the handling of the residues the same safety advices given for the preparation are to be applied.

13.1 Recommended disposal methods for the substance / mixture

Appropriate methods of disposal of preparation: Residues should be disposed of as required by national and local regulations.

Uncleaned packaging:

13.2 Recommendation: Disposal must be made according to local regulations.

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

13.4 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 (M)SDS 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: R45: May cause cancer

*SAFETY PHRASES: S53: Avoid exposure - obtain special instructions before use

S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)

*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
Sept 11, 2019	No Change	First Issue dated Aug 18, 2014
Aug 18, 2014	None as First Issue	None

This (M)SDS is issued by the Safety and operational Risk, 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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(Material) Safety Data Sheet

Issue Date: Sept 11, 2019

Supersedes Aug 18, 2014

**Styrene-Butadiene copolymer
Emulsion polymerized with Aromatic Oil
(SBR1712, SBR1721)**

as to any results obtained or arising from any use of the product or reliance on such information.

End of (M)SDS