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Recron® 3s Polypropylene Fibre			Polyester Sector								
1. IDENTIFICATION OF SUBSTANCE/ PREPARATION AND COMPANY/ UNDERTAKING											
<p>1.1 Identification of the product:</p> <p style="margin-left: 40px;">Product name: Recron® 3s Polypropylene Short-cut Fibre</p> <p style="margin-left: 40px;">Product types: Recron® 3s</p> <p>1.2 Use of the product: Secondary reinforcement fibre for concrete, in wet laid non-woven, paper and lead acid batteries.</p> <p>1.3 Company/ Undertaking identification</p> <p>1.3.1 Manufacturer: Reliance Industries Ltd. (Polyester Sector) Reliance Corporate Park, Building No. 8, 'B' Wing, First Floor, Opposite Ghansoli Railway Station, Thane Belapur Road, Navi Mumbai - 400 701, INDIA Tel: +91-22-44770000 Fax: +91-22-44779107</p> <p style="margin-left: 100px;">E-mail address of person responsible for the Safety Data Sheet: girish.c.desai@ril.com</p> <p>1.3.2 Emergency telephone: +91-261-2835050 OR +91-261-2835056 (24 x 7) Site Shift Manager, Hazira Division</p> <p>1.4 REACH Only Representative Attn: Mr James Searles Steptoe & Johnson LLP 240 Avenue Louise, 1050 Brussels, Belgium Tel: +3226260500, Fax: +3226260510 Email: jsearles@steptoe.com</p>											
2. HAZARDS IDENTIFICATION											
<p>Hazard Codes: Not applicable</p> <p>Risk phrases: Not applicable</p> <p>Safety phrases: Not applicable</p> <p>This product is not considered hazardous or toxic. The hazards if any are associated with its processing. Fibre dust, fly and spinnings fumes may represent a fire hazard at sufficient concentrations in presence of ignition sources.</p>											
3. COMPOSITION/ INFORMATION ON INGREDIENTS											
<p>3.1 Composition:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 55%;">Chemical identity</th> <th style="width: 15%;">CAS No</th> <th style="width: 15%;">EINECS/ ELINCS No</th> <th style="width: 15%;">Concentration</th> </tr> </thead> <tbody> <tr> <td>Polymer (Polypropylene)</td> <td>9003-07-0</td> <td>Not listed</td> <td>99.0 - 100%</td> </tr> </tbody> </table> <p>3.2 Classification according to Regulation (EC) No 1272/2008: Not applicable (not a dangerous mixture)</p> <p>3.3 Remarks on special components:</p> <p>The products and their constituents are not dangerous. The products do contain oil that serves as a processing aid and may generally be removed in an aqueous medium, if so required.</p>				Chemical identity	CAS No	EINECS/ ELINCS No	Concentration	Polymer (Polypropylene)	9003-07-0	Not listed	99.0 - 100%
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4. FIRST AID MEASURES		
4.1	Inhalation:	Inhalation of fibre fly, dust and finish decomposition products should be avoided by hood suction and fresh air ventilation. In case of coughing or other symptoms, the person should seek fresh air and if necessary, see a physician.
4.2	Skin contact:	Wash with soap and water. If irritation develops, consult a physician.
4.3	Eye contact:	Eyes should be washed immediately with plenty of water. If irritation persists, consult a physician.
4.4	Ingestion:	Do not induce vomiting. Call in a physician and show him this data sheet.
5. FIRE-FIGHTING MEASURES		
5.1	Burning behaviour:	
	Flammable class:	Not classified. Polymer will burn, but does not easily ignite.
	Flash point:	> 329°C
	Decomposition temperature:	> 300°C
5.2	Suitable extinguishing media:	Dry Chemical Powder, CO ₂ or Water Spray (see 5.3 below)
5.3	Extinguishing media which must not be used for safety reasons:	Do not use water, if fire is caused by an electrical short circuit.
5.4	Special exposure hazards in a fire:	Low fire hazard. Fibre dust, fly & fumes may represent a fire hazard at sufficient concentrations. Oxides of Carbon (CO, CO ₂) and low-molecular-weight organic compounds may result depending on temperature and air supply during fire On complete combustion, the major products formed are carbon dioxide & water.
5.5	Special protective equipment for fire-fighters:	Wear self-contained breathing apparatus, protective clothing and headgear to prevent contact with skin & eyes.
6. ACCIDENTAL RELEASE MEASURES		
	Personal precautions:	Use normal personal protection.
	Environmental precautions:	In case of accidental spills, do not allow entering drains and waterways. When picked up, treat material as prescribed under section 13 (Disposal considerations).
	Methods for cleaning up:	Clean up by vacuuming, physical picking or mechanical means to minimize fibre fly exposure. If cleaning up involves the use of water, the wastewater should be given the appropriate treatment in an effluent treatment plant, in line with local regulations

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Recron® 3s Polypropylene Fibre				Polyester Sector																	
7. HANDLING AND STORAGE																					
7.1 Handling:		<p>Normal handling and processing does not require special technical protective measures. Avoid formation of dust and fibre fly.</p> <p>Accumulation of fibre dust and fly may represent at sufficient concentrations a fire and explosion hazard. Remove ignition sources. Beware of electrostatic charges.</p> <p>If subsequent processing involves the use of water, the wastewater should be given the appropriate treatment in an effluent treatment plant, in line with local regulations.</p>																			
7.2 Storage:		<p>Store at ambient temperatures.</p> <p>Bales/ cartons/ bags must be stored in line with existing provisions. Existing fire protection provisions have to be observed.</p> <p>Do not store near flame, ignition sources, direct sunlight or incompatible materials. Maintain good housekeeping to control fibre fly accumulations.</p>																			
7.3 Specific use(s):		<p>No specific end-use related recommendation needs to be followed. However, for a specific product application, refer the product brochure.</p>																			
8. EXPOSURE CONTROLS / PERSONAL PROTECTION																					
8.1 Exposure limit values:		<p>Comply with national occupational threshold values for dust. According to TRGS 900 (Germany) there are two values:</p> <p>a) 3 mg/m³ - for fine dust b) 10 mg/m³ - for coarse dust</p>																			
8.2 Exposure controls:		<p>Avoid accumulation of and contact with fibre fly, dust and finish decomposition products by hood suction, sufficient fresh air supply and proper housekeeping.</p>																			
8.2.1 Occupational exposure controls:		<table><tr><td>a) Respiratory protection:</td><td colspan="3">No special measures required, except for fire or insufficient hood suction / fresh air supply (see 4 and 5).</td></tr><tr><td>b) Hand protection:</td><td></td><td colspan="2">Protective gloves are required while cutting bales/ carton straps/ vacuumised bags/ big bags.</td></tr><tr><td>c) Eye protection:</td><td></td><td colspan="2">Wear safety glasses (e.g. especially while cutting bale/ carton straps/ vacuumised bags/ big bags).</td></tr><tr><td>d) Skin protection:</td><td colspan="3">No special measures required. Fibres that are processed at high speeds may cause abrasions or cuts. Appropriate protective measures are recommended.</td></tr></table>				a) Respiratory protection:	No special measures required, except for fire or insufficient hood suction / fresh air supply (see 4 and 5).			b) Hand protection:		Protective gloves are required while cutting bales/ carton straps/ vacuumised bags/ big bags.		c) Eye protection:		Wear safety glasses (e.g. especially while cutting bale/ carton straps/ vacuumised bags/ big bags).		d) Skin protection:	No special measures required. Fibres that are processed at high speeds may cause abrasions or cuts. Appropriate protective measures are recommended.		
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8.2.2 Environmental exposure controls:		<p>Exhausted fibre fly, dust and finish decomposition products shall be kept back efficiently by adequate filter systems.</p>																			

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Recron® 3s Polypropylene Fibre		Polyester Sector
9. PHYSICAL AND CHEMICAL PROPERTIES		
9.1 General information		
Appearance	Form: Short-cut staple fibre	
Colour	Raw-white, white	
Odour	Odourless	
9.2 Important health, safety and environmental information		
pH	Not applicable	
Melting range	155 – 170°C	
Flash point	> 329°C	
Flammability	Not Classified.	
Explosive properties	-	
Oxidising properties	None	
Vapour pressure	Not applicable	
Relative density	0.89 – 0.94 g/cm³	
Solubility	Insoluble in common solvents.	
Water solubility	Insoluble	
Partition coefficient	Not applicable	
Ignition temperature	> 450°C (for base resin. Calculated from critical heat flux data, ¹)	
Viscosity	Not applicable	
Vapour density	Not applicable	
Evaporation rate	Not applicable	
10. STABILITY AND REACTIVITY		
10.1 Conditions to avoid:	Material is stable under normal conditions. Temperatures above 300 °C lead to thermal decomposition (see also 5.4).	
10.2 Materials to avoid:	Strong oxidising agents. Dissolves in boiling, aromatic chlorinated solvents	
10.3 Hazardous decomposition products:	Above the decomposition temperature, the major volatiles will be Ketones, Aldehydes, carbon dioxide and carbon monoxide. When Recron 3s is burned, no unusual combustion gases have been observed.	
11. TOXICOLOGICAL INFORMATION		
11.1 Acute toxicity	Low oral toxicity	
11.2 Inhalation	Low acute toxicity. Dusts and vapours or fumes evolved during thermal processing may cause irritation to the respiratory system.	
11.3 Ingestion	Data not available	
11.4 Skin irritation	No evidence of irritant effect from normal handling and use.	
11.5 Eye irritation	Dust and fumes generated during processing may have irritant effect on eyes. Permanent damage is unlikely.	
Recron® 3s Fibre is a non-toxic man-made fibre. Proper use has not been associated with any special hazard or any detrimental effects on health.		

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12. ECOLOGICAL INFORMATION		
12.1	Eco-toxicity:	Low toxic to aquatic organisms. The fibre product can be separated out mechanically. Some finish components may vaporize or decompose at temperatures above 130 °C. If subsequent processing involves the use of water, the wastewater should be given the appropriate treatment in a purifying plant, in line with local regulations
12.2	Mobility:	The product is insoluble in water. Due to their negligible solubility in water and high molecular weight, they are expected to have a low BOD and will not cause oxygen depletion in aquatic systems.
12.3	Persistence and degradability:	The product is non-biodegradable.
12.4	Bio accumulative potential:	They are expected to be non-biodegradable and unlikely to bio-concentrate.
12.5	Other adverse effects:	Unlikely to affect biological treatment processes.
13. DISPOSAL CONSIDERATIONS		
Disposal of Polypropylene product does not pose any specific danger. It is recommended that Polypropylene Fibre be recycled. If recycling is not possible, Polypropylene waste fibre can be disposed of in a suitable refuse installation or incinerated subject to local regulations.		
14. TRANSPORT INFORMATION		
14.1	UN number:	Not applicable
14.2	Class/ Packing group:	Not restricted
14.3	Marine pollutant:	None
14.4	International Transport Regulations:	Not classified as dangerous for transport
14.5	Road / Rail (ADR / RID):	Not restricted
14.6	Sea (IMDG):	Not restricted
14.7	Air (ICAO / IATA):	Not restricted
15. REGULATORY INFORMATION		
Recron® 3s Polypropylene products do not require hazard warning labels in accordance with EC directives.		
Risk phrase(s):		Not applicable
Safety phrase(s):		Not applicable

16. OTHER INFORMATION

16.1 Recommended restrictions on use:

This safety data sheet is provided for the products and their applications as specified in Section 1. The safety data sheet is not written with the individual end-user in mind.

It is recommended that supplementary information be requested if an unusual application of these products is intended.

Consult the manufacturer if the product(s) is to be used for special applications (such as, but not limited to, the food, hygienic, medical or surgical sectors) or for new end-uses.

16.2 Further information:

Recron® 3s Fibre is an article made of man made fibres and is not subject to **European Regulation (EC) 1907/2006** on registration, evaluation and authorization of chemical substances (**REACH**). Safety Data Sheets or Chemical Safety Reports according to *Art. 31* of this regulation are therefore not required.

This data sheet was established following *Annex II* of this regulation. The raw materials and auxiliaries used for the manufacturing of **Recron® 3s Fibre** are predominantly concerned by this regulation. Reliance will track the status of the registration and evaluation of these materials.

16.3 Disclaimer:

This Safety Data Sheet and the health, safety and environmental information it contains are intended to provide a summary of our knowledge and guidance regarding use of the designated Product. Its contents are offered in good faith as accurate and complete as of the date specified below, but without guarantee. The data herein applies only to the Product sold by entities of the Reliance group and not to products sold by others. It relates only to the Product and does not relate to its use in combination with any other product or material or in any process.

Local laws and regulations and conditions of use and suitability of the product for particular uses are beyond the control of Reliance; all risks of use, storage, handling, transportation and disposal of the Product are therefore assumed by the user and Reliance expressly disclaims all warranties of every kind and nature, including warranties of merchantability and fitness for a particular purpose in respect to the use or suitability of the Product. Reliance shall not be responsible for any damage or injury resulting from abnormal use of the Product, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the Product.

Appropriate warnings and safe handling procedures should be provided to all handlers and users. In the case of a user in the European Union, as per Article 34 of REACH Regulation (EC) No. 1907/2006, user shall communicate to Reliance any new information on hazardous properties of the Product and/or new information relevant to risk management measures for the identified uses.

Alteration or re-publication of this document in whole or part is strictly prohibited.

16.4 Revisions:

Version: 1.1 - Manufacturer office address changed
Version: 1.2 – Ignition temperature data updated in Section 9
Version: 1.3 – Reaffirmed
Version: 1,4 - Reaffirmed

References:

¹ Tewarson, A. In **Physical Properties of Polymers Handbook**, edited by J. E. Mark, AIP Press, Woodbury, N. Y., 1996, p. 584.