












	<h1>Safety data sheet</h1> <p>(According to Regulation (EC) 1907/2006)</p>																					
<b>Recron® 3s Polyester Short-cut Fibre</b>		<b>Polyester Sector</b>																				
<b>1. IDENTIFICATION OF SUBSTANCE/ PREPARATION AND COMPANY/ UNDERTAKING</b>																						
<p><b>1.1 Identification of the product:</b></p> <p style="margin-left: 40px;">Product name: <b>Recron® 3s Polyester Short-cut Fibre</b></p> <p style="margin-left: 40px;">Product types: Recron® 3s for Construction, Non-woven wet-Laid, Paper and Lead acid batteries.</p> <p><b>1.2 Use of the product:</b> Secondary reinforcement fibre for concrete, wet laid non-woven, paper and lead acid batteries.</p> <p><b>1.3 Company/ Undertaking identification</b></p> <p><b>1.3.1 Manufacturer:</b> 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: 40px;">E-mail address of person responsible for the Safety Data Sheet: <a href="mailto:girish.c.desai@ril.com">girish.c.desai@ril.com</a></p> <p><b>1.3.2 Emergency telephone:</b> +91-261-2835050 OR +91-261-2835056 (24 x 7) Site Shift Manager, Hazira Division</p> <p><b>1.4 REACH Only Representative</b> Attn: Mr James Searles <b>Steptoe &amp; Johnson LLP</b> 240 Avenue Louise, 1050 Brussels, Belgium Tel: +3226260500, Fax: +3226260510 Email: <a href="mailto:jsearles@steptoe.com">jsearles@steptoe.com</a></p>																						
<b>2. HAZARDS IDENTIFICATION</b>																						
<p><b>Hazard Codes:</b> Not applicable</p> <p><b>Risk phrases:</b> Not applicable</p> <p><b>Safety phrases:</b> 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 spinline fumes may represent a fire hazard, at sufficient concentrations in presence of ignition sources.</p>																						
<b>3. COMPOSITION/ INFORMATION ON INGREDIENTS</b>																						
<p><b>3.1 Composition:</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Chemical identity</th> <th style="text-align: left;">CAS No</th> <th style="text-align: left;">EINECS/ ELINCS No</th> <th style="text-align: left;">Concentration</th> </tr> </thead> <tbody> <tr> <td>Polymer (Polyethylene terephthalate)</td> <td>25038-59-9</td> <td>Not listed</td> <td>&gt; 87.0%</td> </tr> <tr> <td>Additives (Titanium dioxide, optical brighteners [optional])</td> <td style="text-align: center;">-</td> <td style="text-align: center;">-</td> <td>&lt; 0.5%</td> </tr> <tr> <td>Spin finish</td> <td style="text-align: center;">-</td> <td style="text-align: center;">-</td> <td>&lt; 0.5%</td> </tr> <tr> <td>Hazardous ingredient</td> <td></td> <td></td> <td>None</td> </tr> </tbody> </table> <p><b>3.2 Classification according to Regulation (EC) No 1272/2008:</b> Not applicable</p> <p><b>3.3 Remarks on special components:</b></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 (Polyethylene terephthalate)	25038-59-9	Not listed	> 87.0%	Additives (Titanium dioxide, optical brighteners [optional])	-	-	< 0.5%	Spin finish	-	-	< 0.5%	Hazardous ingredient			None
Chemical identity	CAS No	EINECS/ ELINCS No	Concentration																			
Polymer (Polyethylene terephthalate)	25038-59-9	Not listed	> 87.0%																			
Additives (Titanium dioxide, optical brighteners [optional])	-	-	< 0.5%																			
Spin finish	-	-	< 0.5%																			
Hazardous ingredient			None																			

Recron® 3s		Safety data sheet <i>(According to Regulation (EC) 1907/2006)</i>		 Reliance Industries Limited	
Recron® 3s Polyester Short-cut Fibre				Polyester Sector	
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 determined			
Flash point:		Not applicable. Product burns in fire.			
Self-ignition temperature:		515 °C DIN 51794			
Decomposition temperature:		> 300 °C			
5.2 Suitable extinguishing media:		Dry Chemical Powder, CO <sub>2</sub> 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 <sub>2</sub> ) 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			

<div>Recron® 3s</div>	<div>Safety data sheet</div> <div>(According to Regulation (EC) 1907/2006)</div>	<div><div>Reliance Industries Limited</div></div>
Recron® 3s Polyester Short-cut 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/m<sup>3</sup> - for fine dust</p> <p>b) 10 mg/m<sup>3</sup> - for coarse dust</p>	
8.2 Exposure controls:	<p>Avoid accumulation of and contact with fibre fly, dust and spinfinish decomposition products, by hood suction, sufficient fresh air supply and proper housekeeping.</p>	
8.2.1 Occupational exposure controls:		
a) Respiratory protection:		No special measures required, except for fire or insufficient ventilation/ 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/ vacuumed 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.
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> <p>Use adequate filter system in air exhaust to trap fibre fly, dust and spinfinish decomposition products.</p>	

	<h1 style="text-align: center;">Safety data sheet</h1> <p style="text-align: center;">(According to Regulation (EC) 1907/2006)</p>																																																										
<b>Recron® 3s Polyester Short-cut Fibre</b>		<b>Polyester Sector</b>																																																									
<b>9. PHYSICAL AND CHEMICAL PROPERTIES</b>																																																											
<table> <tr> <td data-bbox="235 451 300 493"><b>9.1</b></td><td data-bbox="300 451 625 493"><b>General information</b></td><td data-bbox="625 451 1421 493"></td></tr> <tr> <td></td><td>Appearance</td><td>Form: Short-cut staple fibre</td></tr> <tr> <td></td><td>Colour</td><td>Raw-white, white</td></tr> <tr> <td></td><td>Odour</td><td>Odourless</td></tr> <tr> <td data-bbox="235 619 300 661"><b>9.2</b></td><td data-bbox="300 619 625 661"><b>Important health, safety and environmental information</b></td><td data-bbox="625 619 1421 661"></td></tr> <tr> <td></td><td>pH</td><td>Not applicable</td></tr> <tr> <td></td><td>Melting point/range</td><td>240 - 260 °C</td></tr> <tr> <td></td><td>Flash point</td><td>-</td></tr> <tr> <td></td><td>Flammability</td><td>-</td></tr> <tr> <td></td><td>Explosive properties</td><td>-</td></tr> <tr> <td></td><td>Oxidising properties</td><td>None</td></tr> <tr> <td></td><td>Vapour pressure</td><td>Not applicable</td></tr> <tr> <td></td><td>Relative density</td><td>1.3 – 1.4 g/cm<sup>3</sup></td></tr> <tr> <td></td><td>Solubility</td><td>Insoluble in common solvents.</td></tr> <tr> <td></td><td>Water solubility</td><td>Insoluble</td></tr> <tr> <td></td><td>Partition coefficient:</td><td>Not applicable</td></tr> <tr> <td></td><td>Viscosity</td><td>Not applicable</td></tr> <tr> <td></td><td>Vapour density</td><td>Not applicable</td></tr> <tr> <td></td><td>Evaporation rate</td><td>Not applicable</td></tr> </table>			<b>9.1</b>	<b>General information</b>			Appearance	Form: Short-cut staple fibre		Colour	Raw-white, white		Odour	Odourless	<b>9.2</b>	<b>Important health, safety and environmental information</b>			pH	Not applicable		Melting point/range	240 - 260 °C		Flash point	-		Flammability	-		Explosive properties	-		Oxidising properties	None		Vapour pressure	Not applicable		Relative density	1.3 – 1.4 g/cm <sup>3</sup>		Solubility	Insoluble in common solvents.		Water solubility	Insoluble		Partition coefficient:	Not applicable		Viscosity	Not applicable		Vapour density	Not applicable		Evaporation rate	Not applicable
<b>9.1</b>	<b>General information</b>																																																										
	Appearance	Form: Short-cut staple fibre																																																									
	Colour	Raw-white, white																																																									
	Odour	Odourless																																																									
<b>9.2</b>	<b>Important health, safety and environmental information</b>																																																										
	pH	Not applicable																																																									
	Melting point/range	240 - 260 °C																																																									
	Flash point	-																																																									
	Flammability	-																																																									
	Explosive properties	-																																																									
	Oxidising properties	None																																																									
	Vapour pressure	Not applicable																																																									
	Relative density	1.3 – 1.4 g/cm <sup>3</sup>																																																									
	Solubility	Insoluble in common solvents.																																																									
	Water solubility	Insoluble																																																									
	Partition coefficient:	Not applicable																																																									
	Viscosity	Not applicable																																																									
	Vapour density	Not applicable																																																									
	Evaporation rate	Not applicable																																																									
<b>10. STABILITY AND REACTIVITY</b>																																																											
<table> <tr> <td data-bbox="235 1302 300 1344"><b>10.1</b></td><td data-bbox="300 1302 625 1344"><b>Conditions to avoid:</b></td><td data-bbox="625 1302 1421 1344">Material is stable under normal conditions. Temperatures above 300 °C lead to thermal decomposition (see also 5.4).</td></tr> <tr> <td data-bbox="235 1375 300 1417"><b>10.2</b></td><td data-bbox="300 1375 625 1417"><b>Materials to avoid:</b></td><td data-bbox="625 1375 1421 1417">Strong oxidising agents</td></tr> <tr> <td data-bbox="235 1428 300 1470"><b>10.3</b></td><td data-bbox="300 1428 625 1470"><b>Hazardous decomposition products:</b></td><td data-bbox="625 1428 1421 1564">After exceeding the decomposition temperature, the major volatiles will be terephthalic acid, oligomers of PET, carbon dioxide, carbon monoxide, acetaldehyde, and low molecular weight alcohols/ aldehydes. No unusual combustion gases have been observed during burning of Recron 3s.</td></tr> </table>			<b>10.1</b>	<b>Conditions to avoid:</b>	Material is stable under normal conditions. Temperatures above 300 °C lead to thermal decomposition (see also 5.4).	<b>10.2</b>	<b>Materials to avoid:</b>	Strong oxidising agents	<b>10.3</b>	<b>Hazardous decomposition products:</b>	After exceeding the decomposition temperature, the major volatiles will be terephthalic acid, oligomers of PET, carbon dioxide, carbon monoxide, acetaldehyde, and low molecular weight alcohols/ aldehydes. No unusual combustion gases have been observed during burning of Recron 3s.																																																
<b>10.1</b>	<b>Conditions to avoid:</b>	Material is stable under normal conditions. Temperatures above 300 °C lead to thermal decomposition (see also 5.4).																																																									
<b>10.2</b>	<b>Materials to avoid:</b>	Strong oxidising agents																																																									
<b>10.3</b>	<b>Hazardous decomposition products:</b>	After exceeding the decomposition temperature, the major volatiles will be terephthalic acid, oligomers of PET, carbon dioxide, carbon monoxide, acetaldehyde, and low molecular weight alcohols/ aldehydes. No unusual combustion gases have been observed during burning of Recron 3s.																																																									
<b>11. TOXICOLOGICAL INFORMATION</b>																																																											
<table> <tr> <td data-bbox="235 1627 300 1669"><b>11.1</b></td><td data-bbox="300 1627 625 1669"><b>Acute toxicity</b></td><td data-bbox="625 1627 1421 1669">Low oral toxicity</td></tr> <tr> <td data-bbox="235 1680 300 1722"><b>11.2</b></td><td data-bbox="300 1680 625 1722"><b>Inhalation</b></td><td data-bbox="625 1680 1421 1722">Low acute toxicity. Dusts and vapours or fumes evolved during thermal processing may cause irritation to the respiratory system.</td></tr> <tr> <td data-bbox="235 1753 300 1795"><b>11.3</b></td><td data-bbox="300 1753 625 1795"><b>Ingestion</b></td><td data-bbox="625 1753 1421 1795">Data not available</td></tr> <tr> <td data-bbox="235 1806 300 1848"><b>11.4</b></td><td data-bbox="300 1806 625 1848"><b>Skin irritation</b></td><td data-bbox="625 1806 1421 1848">No evidence of irritant effect from normal handling and use.</td></tr> <tr> <td data-bbox="235 1858 300 1898"><b>11.5</b></td><td data-bbox="300 1858 625 1898"><b>Eye irritation</b></td><td data-bbox="625 1858 1421 1898">Dust and fumes generated during processing may have irritant effect on eyes. Permanent damage is unlikely.</td></tr> </table>			<b>11.1</b>	<b>Acute toxicity</b>	Low oral toxicity	<b>11.2</b>	<b>Inhalation</b>	Low acute toxicity. Dusts and vapours or fumes evolved during thermal processing may cause irritation to the respiratory system.	<b>11.3</b>	<b>Ingestion</b>	Data not available	<b>11.4</b>	<b>Skin irritation</b>	No evidence of irritant effect from normal handling and use.	<b>11.5</b>	<b>Eye irritation</b>	Dust and fumes generated during processing may have irritant effect on eyes. Permanent damage is unlikely.																																										
<b>11.1</b>	<b>Acute toxicity</b>	Low oral toxicity																																																									
<b>11.2</b>	<b>Inhalation</b>	Low acute toxicity. Dusts and vapours or fumes evolved during thermal processing may cause irritation to the respiratory system.																																																									
<b>11.3</b>	<b>Ingestion</b>	Data not available																																																									
<b>11.4</b>	<b>Skin irritation</b>	No evidence of irritant effect from normal handling and use.																																																									
<b>11.5</b>	<b>Eye irritation</b>	Dust and fumes generated during processing may have irritant effect on eyes. Permanent damage is unlikely.																																																									

	<div>Safety data sheet</div> <div>(According to Regulation (EC) 1907/2006)</div>	
Recron® 3s Polyester Short-cut Fibre		Polyester Sector
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.		
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 Polyester product does not pose any specific danger.  It is recommended that Polyester Fibre be recycled. If recycling is not possible, Polyester 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 Polyester products do not require hazard warning labels in accordance with EC directives.		
Risk phrase(s):		Not applicable
Safety phrase(s):		Not applicable
Recron® 3s complies with:		
<ul style="list-style-type: none"><li>US Federal Food, Drugs &amp; Cosmetics Act for food contact application and all applicable food additive regulations including 21 CFR §177.1630</li><li>Regulation (EC) No 1935/2004 dated 27 October 2004 on materials and articles intended to come into contact with food.</li><li>Commission Regulation (EU) No 10/2011 of 14 January 2011 on Plastic materials and articles intended to come into contact with food, last amended by Commission Regulation (EU) No 1183/2012 of 30 November 2012.</li><li>German Foodstuffs, Consumer Goods and Animal Feed Code (LFGB) Notification §§ 30 and 31 dated 22 August 2011 (BGBl. I p. 1770), last amendment of 3 August 2012.</li><li>German Recommendation XXXVI, 34<sup>th</sup> memorandum, Bundesgesundheitsblatt (Federal Health Gazette) 10, 14 (1967),</li></ul>		

	<h1 style="text-align: center;">Safety data sheet</h1> <p style="text-align: center;">(According to Regulation (EC) 1907/2006)</p>	
<b>Recron® 3s Polyester Short-cut Fibre</b>		<b>Polyester Sector</b>
including the 214 <sup>th</sup> memorandum, Bundesgesundheitsblatt 55,291-294 (2012), dated 1 January 2012. • German Recommendation XXXVI/ 1, 186 <sup>th</sup> memorandum, Bundesgesundheitsblatt (Federal Health Gazette) 33, 424 (1990), including the 214 <sup>th</sup> memorandum, Bundesgesundheitsblatt 55, 291-294 (2012), dated 1 January 2012.		
<b>16. OTHER INFORMATION</b>		
<p><b>16.1 Recommended restrictions on use:</b></p> <p>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.</p> <p>It is recommended that supplementary information be requested if an unusual application of these products is intended.</p> <p>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.</p> <p><b>16.2 Further information:</b></p> <p><b>Recron® 3s Fibre</b> is an article made of man made fibres and is not subject to <b>European Regulation (EC) 1907/2006</b> on registration, evaluation and authorization of chemical substances (<b>REACH</b>). Safety Data Sheets or Chemical Safety Reports according to <i>Art. 31</i> of this regulation are therefore not required.</p> <p>This data sheet was established following <i>Annex II</i> of this regulation. The raw materials and auxiliaries used for the manufacturing of <b>Recron® 3s Fibre</b> are predominantly concerned by this regulation. Reliance will track the status of the registration and evaluation of these materials.</p> <p><b>16.3 Disclaimer:</b></p> <p>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.</p> <p>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.</p> <p>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.</p> <p>Alteration or re-publication of this document in whole or part is strictly prohibited.</p> <p><b>16.4 Revisions:</b></p> <p>Version: 1.1 - Contact details of "REACH" Only Representative included as section 1.4.          Version: 1.2 - Manufacturer office address changed.          Version: 1.3 - Reaffirmed and updated regulatory compliance details shifted in Section 15.          Version: 1.4 – Section 3.1 updated for moisture content.          Version: 1.5 – Section 3.2 Classification according to Regulation (EC) No 1272/2008.</p>		