

TECHNICAL DATA

"CHEMSOL" RANGE

CHEMICAL BOILERSUIT - TYPE 3 (LIQUID TIGHT) CHEMICAL PROTECTIVE CLOTHING

To The Requirements Of :-
BS EN 466-1 : 1995

&

CHEMICAL BOILERSUIT - TYPE 4 (SPRAY TIGHT) CHEMICAL PROTECTIVE CLOTHING

To The Requirements Of :-
BS EN 465 : 1995

&

GARMENTS PROVIDING CHEMICAL PROTECTION TO PARTS OF THE BODY

To The Requirements Of :-
BS EN 467 : 1995



Alpha Solway Limited
Factory 1, Queensberry Street
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Scotland. DG12 5BL

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E-Mail sales@alphasolway.com
Internet www.alphasolway.co.uk

Product: “CHEMSOL”

Product Specification:

Material:	Polyester	
Weight:	Approx. 320 g/m ²	
Width:	150 cm	
Tensile Strength:	ca. 320 N/5 cm	DIN 53354
Tearing Strength:	approx. 17N	DIN 53356
Adhesion Strength:	approx. 15 kg/5 cm	EU.BN.51-1.
Cold Resistance:	- 30 °C	BS.3423-10
Water Permeability:	0	
Light Fastness:	6 - 7	
Coating:	Elastomer / Vinyl	
Further Information:	Chemical Resistant	EN 369, EN 467
Area Of Application:	Soft Rainwear	

August -96

Chemical Boilersuit (Chemsol) - Type 3 (Liquid Tight) Chemical Protective Clothing

Test Results :-

BS EN 466-1 : 1995 Protective Clothing - Protection Against Liquid Chemicals -
Performance Requirements For Chemical Protective Clothing
With Liquid-Tight Connections Between Different Parts Of The
Clothing (Type 3 Equipment)

<u>Clause</u>	<u>Test</u>	<u>Result</u>	<u>Classification</u> <u>Of EN 466-1</u>
4.4	Abrasion Resistance (prEN 530)	> 2000* Cycles	6
4.5	Stability To Heat (Blocking Resistance) (ISO 5978)		
	Fabric to Fabric	No Blocking	2
	Fabric to Coating	No Blocking	2
	Coating to Coating	Slight Blocking	1
4.6	Flex Cracking Resistance (ISO 7854)	> 300,000* Cycles	5
4.7	Puncture Resistance (prEN 863)	19 N	2
4.8	Tear Resistance (ISO 4674 (A.1))		
	Across wales of substrate	31 N	2
	Across courses of substrate	42 N	3
4.9	Coating Adhesion Strength (ISO 2411)		
	Length	150 N/50mm	
	Width	118 N/50mm	
4.10	Resistance To Permeation By Liquids (EN 369)	See User Information Sheet For Results	
5.2	Seam Strength (ISO 5082)	Mean Seam Strength (N/25mm)	
	a) Initial 203	Final 206	4
	b) Initial - - -	Final 149	4
6.2	Resistance To Penetration By Spray (Spray Test) (EN 468)	Pass - Total Staining Not Exceeding 36cm ²	
6.3	Resistance To Penetration By Liquids (Jet Test) (EN 463)	Pass - Total Staining Not Exceeding 31.5cm ²	

*These tests were terminated at the values shown since levels had been reached which comply with the highest classifications given for these tests.

USER INFORMATION SHEET

Sheet Ref. No. :- TF-EN 466-001, Issue 002, Revision 0 (Chemsol)

Used For :- Type 3 - Chemical Protective Suit (Chemsol)

[illegible]



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Telephone +44 (0) 1461 202 452 Fax. +44 (0) 1461 205 684

USER INFORMATION SHEET



Type 3 - Chemical Protective Suit (chemsol)

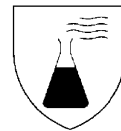
Chemical Breakthrough Times :- BS EN 466-1

Chemical	Concentration (Wt %)	Breakthrough Time (min)	Classification
Acetic Acid	10 30	> 480	6
Hydrochloric Acid	10 30	> 480	6
Sodium Hydroxide	10 50	> 480	6
Sodium Hypochlorite	ca. 14	> 480	6
Sulphuric Acid	10 50	> 480	6
Phenol / Sodium Hydroxide 1 : 1	40 : 40	> 480	6

Non-Classified Mediums To BS EN 466-1

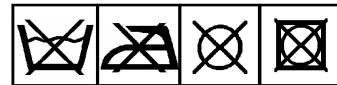
Acetone	2 mins	Methyl Ethyl Ketone	2 mins
Ammonia Solution	6 mins	Unleaded Petrol	4 mins
Ethanol	2 mins	Xylenes (mixed)	4 mins

Chemical Protective Clothing



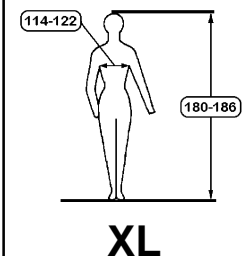
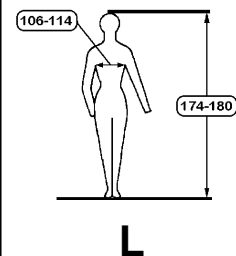
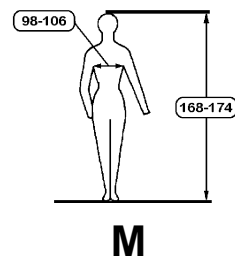
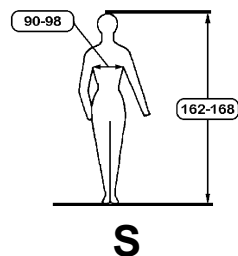
TYPE 3 - Liquid Tight Clothing
TYPE 4 - Spray Tight Clothing

Wash Care Instructions :-



Standard And Bespoke Sizing Requirements

Alpha Solway Limited make the statement that manufacture of this garment is in sizes either bespoke for the individual or can be supplied as per normal sizing designations.



Product Designation

This garment has been manufactured to meet the stringent demands of **BS EN 466-1 : 1995**.

Tested To BS EN 466-1 : 1995

Test results are obtainable from the manufacturer, from which the performance levels of the tested product can be ascertained.

*Explanation Of The Pictogram

The pictogram of the "chemical flask" indicates that this garment has been tested as Type 3 - Chemical Protective Clothing - Liquid Tight Clothing - in accordance with the requirements of **BS EN 466-1 : 1995**.

Application

This garment provides **Type 3 - Liquid Tight Protection**, in accordance with the requirements of **BS EN 466-1 : 1995**.

Wearers are advised that all closures, (zips, storm facing, etc.), should be secured before use.

A Waterproof Adhesive Tape must be used to cover the Neck Area and other potential entry points such as Cuffs.

If the garment is to be worn for long periods at high temperatures or high work rates then, due to the nature of the material, the wearer may experience some "heat stress". If this occurs the wearer should undertake appropriate action to alleviate the same.

For certain applications, Approved Ancillaries, such as, Hoods, Boots, Gloves and Respiratory Equipment must be worn with this garment.

Alpha Solway Limited and its distributors cannot accept responsibility for improper use of this garment.

Limitation On Use

This garment provides protection WITHIN THE APPLICATION of **BS EN 466-1** as Type 3 - Liquid Tight Clothing.

Storage And Maintenance

It is recommended that the Wash Instructions as detailed on the care label are followed.

The following information should also be noted and followed:-

- 1... It is recommended that the garment be **RINSED DOWN ONLY** to remove chemical contamination and allowed to drip dry well clear of continuous UV (Sunlight) or Artificial UV (Lighting) Sources.
- 2... This garment has been decontaminated in accordance with the care instructions a maximum of 25 times.
- 3... Store in a cool dry environment - always hang to avoid creases.
- 4... The wearer should be aware that the process of using and decontaminating the garment could, over time, adversely effect the properties of the garment. For safety, always check garment for Creases, Damage, Pin Tears or Holes, Etc. prior to wear. If the material becomes torn, abraded or punctured, the wearer should discontinue use to avoid potential exposure to hazard.

Should you require any assistance or further technical information regarding this garment, please phone the Company at the telephone number provided, and ask for the **Sales Department**.

EC Type Examination Certificate

Issued By :- SGS United Kingdom Ltd.,
Head Office :- Rossmore Business Park,
ELLSMERE PORT,
Cheshire, CH65 3EN.

EC Notified Body Number **0120**

Chemical Boilersuit (Chemsol) - Type 4 (Spray Tight) Chemical Protective Clothing

Test Results :-

BS EN 465 : 1995

Protective Clothing - Protection Against Liquid Chemicals -
Performance Requirements For Chemical Protective Clothing
With Spray-Tight Connections Between Different Parts Of The
Clothing (Type 4 Equipment)

<u>Clause</u>	<u>Test</u>	<u>Result</u>	<u>Classification Of EN 465</u>
4.4	Abrasion Resistance (prEN 530)	> 2000* Cycles	6
4.5	Stability To Heat (Blocking Resistance) (ISO 5978)		
	Fabric to Fabric	No Blocking	2
	Fabric to Coating	No Blocking	2
	Coating to Coating	Slight Blocking	1
4.6	Flex Cracking Resistance (ISO 7854)	> 300,000* Cycles	5
4.7	Puncture Resistance (prEN 863)	19 N	2
4.8	Tear Resistance (ISO 4674 (A.1))		
	Across wales of substrate	31 N	2
	Across courses of substrate	42 N	3
4.9	Coating Adhesion Strength (ISO 2411)		
	Length	150 N/50mm	
	Width	118 N/50mm	
4.10	Resistance To Permeation By Liquids (EN 369)	See User Information Sheet For Results	
5.2	Seam Strength (ISO 5082)	Mean Seam Strength (N/25mm)	
	a) Initial 203	Final 206	4
	b) Initial - - -	Final 149	4
6.2	Resistance To Penetration By Spray (Spray Test) (EN 468)	Pass - Total Staining Not Exceeding 36cm ²	

*These tests were terminated at the values shown since levels had been reached which comply with the highest classifications given for these tests.

USER INFORMATION SHEET

Sheet Ref. No. :- TF-EN 466(5)-001, Revision 002, Issue 0 (Chemsol) (B)

Used For :- Type 4 - Chemical Protective Suit (Chemsol)

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Telephone +44 (0) 1461 202 452 Fax. +44 (0) 1461 205 684

USER INFORMATION SHEET



Type 4 - Chemical Protective Suit (chemsol)

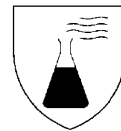
Chemical Breakthrough Times :- BS EN 465

Chemical	Concentration (Wt %)	Breakthrough Time (min)	Classification
Acetic Acid	10 30	> 480	6
Hydrochloric Acid	10 30	> 480	6
Sodium Hydroxide	10 50	> 480	6
Sodium Hypochlorite	ca. 14	> 480	6
Sulphuric Acid	10 50	> 480	6
Phenol / Sodium Hydroxide 1 : 1	40 : 40	> 480	6

Non-Classified Mediums To BS EN 465

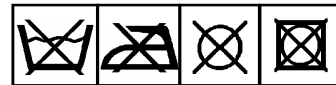
Acetone	2 mins	Methyl Ethyl Ketone	2 mins
Ammonia Solution	6 mins	Unleaded Petrol	4 mins
Ethanol	2 mins	Xylenes (mixed)	4 mins

Chemical Protective Clothing



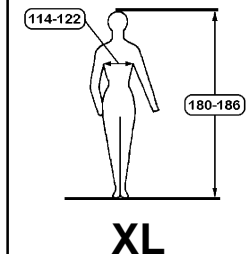
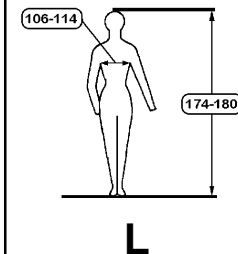
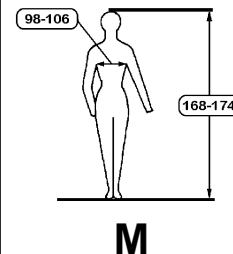
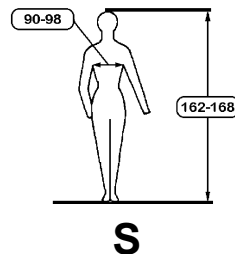
TYPE 4 - Spray Tight Clothing

Wash Care Instructions :-



Standard And Bespoke Sizing Requirements

Alpha Solway Limited make the statement that manufacture of this garment is in sizes either bespoke for the individual or can be supplied as per normal sizing designations.



Product Designation

This garment has been manufactured to meet the stringent demands of **BS EN 465 : 1995**.

Tested To BS EN 465 : 1995

Test results are obtainable from the manufacturer, from which the performance levels of the tested product can be ascertained.

*Explanation Of The Pictogram

The pictogram of the "chemical flask" indicates that this garment has been tested as Type 4 - Chemical Protective Clothing - Spray Tight Clothing - in accordance with the requirements of **BS EN 465 : 1995**.

Application

This garment provides **Type 4 - Spray Tight Protection**, in accordance with the requirements of **BS EN 465 : 1995**.

Wearers are advised that all closures, (zips, storm facing, etc.), should be secured before use.

A Waterproof Adhesive Tape must be used to cover the Neck Area and other potential entry points such as Cuffs.

If the garment is to be worn for long periods at high temperatures or high work rates then, due to the nature of the material, the wearer may experience some "heat stress". If this occurs the wearer should undertake appropriate action to alleviate the same.

For certain applications, Approved Ancillaries, such as, Hoods, Boots, Gloves and Respiratory Equipment must be worn with this garment.

Alpha Solway Limited and its distributors cannot accept responsibility for improper use of this garment.

Limitation On Use

This garment provides protection WITHIN THE APPLICATION OF **BS EN 465** as Type 4 - Spray Tight Clothing.

Where this garment has a collar it is recommended that the appropriate protective headgear be sought.

Storage And Maintenance

It is recommended that the Wash Instructions as detailed on the care label are followed.

The following information should also be noted and followed:-

- 1... It is recommended that the garment be **RINSED DOWN ONLY** to remove chemical contamination and allowed to drip dry well clear of continuous UV (Sunlight) or Artificial UV (Lighting) Sources.
- 2... This garment has been decontaminated in accordance with the care instructions a maximum of 25 times.
- 3... Store in a cool dry environment - always hang to avoid creases.
- 4... The wearer should be aware that the process of using and decontaminating the garment could, over time, adversely effect the properties of the garment. For safety, always check garment for Creases, Damage, Pin Tears or Holes, Etc. prior to wear. If the material becomes torn, abraded or punctured, the wearer should discontinue use to avoid potential exposure to hazard.

Should you require any assistance or further technical information regarding this garment, please phone the Company at the telephone number provided, and ask for the **Sales Department**.

EC Type Examination Certificate

Issued By :- SGS United Kingdom Ltd.,
Head Office :- Rossmore Business Park,
ELLESMERE PORT,
Cheshire, CH65 3EN.

EC Notified Body Number **0120**



Alpha Solway Limited
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Garments (Chemsol) Providing Chemical Protection To Parts Of The Body

Test Results :-

BS EN 467 : 1995

Protective Clothing - Protection Against Liquid Chemicals -
Performance Requirements For Garments Providing Protection
To Parts Of The Body

<u>Clause</u>	<u>Test</u>	<u>Result</u>	<u>Classification</u> <u>Of EN 467</u>
4.4	Abrasion Resistance (prEN 530)	> 2000* Cycles	6
4.5	Stability To Heat (Blocking Resistance) (ISO 5978)		
	Fabric to Fabric	No Blocking	2
	Fabric to Coating	No Blocking	2
	Coating to Coating	Slight Blocking	1
4.6	Flex Cracking Resistance (ISO 7854)	> 300,000* Cycles	5
4.7	Puncture Resistance (prEN 863)	19 N	2
4.8	Tear Resistance (ISO 4674 (A.1))		
	Across wales of substrate	31 N	2
	Across courses of substrate	42 N	3
4.9	Coating Adhesion Strength (ISO 2411)		
	Length	150 N/50mm	
	Width	118 N/50mm	
4.10	Resistance To Permeation By Liquids (EN 369)	See User Information Sheet For Results	
5.2	Seam Strength (ISO 5082)	Mean Seam Strength (N/25mm)	
	a) Initial 203	Final 206	4
	b) Initial - - -	Final 149	4

*These tests were terminated at the values shown since levels had been reached which comply with the highest classifications given for these tests.

USER INFORMATION SHEET

Sheet Ref. No. :- TF-EN 467-001, Issue 002, Revision 0 (Chemsol) (a)

Used For :- Chemical Protective Clothing

[illegible]



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Telephone +44 (0) 1461 202 452 Fax. +44 (0) 1461 205 684

USER INFORMATION SHEET



Chemical Protective Clothing (chemsol) Protection To Parts Of The Body

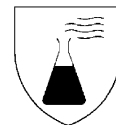
Chemical Breakthrough Times :- EN 467

Chemical	Concentration (Wt %)	Breakthrough Time (min)	Classification
Acetic Acid	10 30	> 480	6
Hydrochloric Acid	10 30	> 480	6
Sodium Hydroxide	10 50	> 480	6
Sodium Hypochlorite	ca. 14	> 480	6
Sulphuric Acid	10 50	> 480	6
Phenol / Sodium Hydroxide 1 : 1	40 : 40	> 480	6

Non-Classified Mediums to EN 467

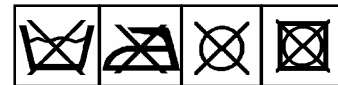
Acetone	2 mins	Methyl Ethyl Ketone	2 mins
Ammonia Solution	6 mins	Unleaded Petrol	4 mins
Ethanol	2 mins	Xylenes (mixed)	4 mins

Chemical Protective Clothing



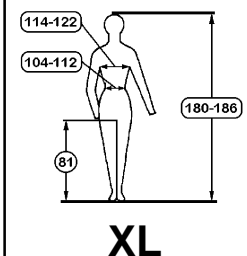
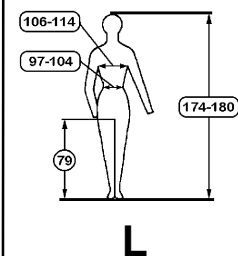
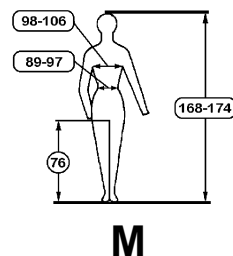
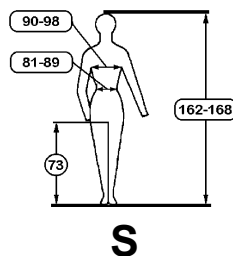
Protection To Parts Of The Body

Wash Care Instructions :-



Standard And Bespoke Sizing Requirements

Alpha Solway Limited make the statement that manufacture of this garment is in sizes either bespoke for the individual or can be supplied as per normal sizing designations.



Product Designation

This garment has been manufactured to meet the stringent demands of **BS EN 467 : 1995**.

Tested To BS EN 467 : 1995

Test results are obtainable from the manufacturer, from which the performance levels of the tested product can be ascertained.

*Explanation Of The Pictogram

The pictogram of the "chemical flask" indicates that this garment has been tested as Chemical Protective Clothing - Protection To Parts Of The Body - in accordance with the requirements of **BS EN 467 : 1995**.

Application

This garment provides **Chemical Protection To Parts Of The Body**, in accordance with the requirements of **BS EN 467 : 1995**.

It is recommended that when wearing this garment that the use of a Waterproof Adhesive Tape, to cover potential entry points such as Cuffs and Neck Area, be considered.

For certain applications Approved Ancillaries such as Hoods, Boots, Gloves and Respiratory Equipments must be worn with this garment.

Alpha Solway Limited and its distributors cannot accept responsibility for improper use of this garment.

Limitation On Use

This garment provides protection WITHIN THE APPLICATION of **BS EN 467 : 1995** as Chemical Protective Clothing - Protection To Parts Of The Body.

Whilst use of a combination of such products can afford a degree of full body protection it is recommended that in areas where such protection is required a **one-piece suit** be worn.

Storage And Maintenance

It is recommended that the Wash Instructions as detailed on the care label are followed.

The following information should also be noted and followed:-

- 1... It is recommended that the garment be **RINSED DOWN ONLY** to remove chemical contamination and allowed to drip dry well clear of continuous UV (Sunlight) or Artificial UV (Lighting) Sources.
- 2... This garment has been decontaminated in accordance with the care instructions a maximum of 25 times.
- 3... Store in a cool dry environment – always hang to avoid creases.
- 4... For safety, always check garment for Creases, Damage, Pin Tears or Holes prior to wear. If the material becomes torn, abraded or punctured, the wearer should discontinue use to avoid potential exposure to hazard.

Should you require any assistance or further technical information regarding this garment, please phone the Company at the telephone number provided, and ask for the **Sales Department**.

EC Type Examination Certificate

Issued By :- SGS United Kingdom Ltd.,
Head Office :- Rossmore Business Park,
ELLESMERE PORT,
Cheshire. CH65 3EN.

EC Notified Body Number **0120**

USER INFORMATION SHEET

Sheet Ref. No. :- TF-EN 467-001, Issue 002, Revision 0 (Chemsol) (b)

Used For :- Chemical Protective Clothing (Chemsol)

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USER INFORMATION SHEET



Chemical Protective Clothing (chemsol) Protection To Parts Of The Body

Chemical Breakthrough Times :- EN 467

Chemical	Concentration (Wt %)	Breakthrough Time (min)	Classification
Acetic Acid	10 30	> 480	6
Hydrochloric Acid	10 30	> 480	6
Sodium Hydroxide	10 50	> 480	6
Sodium Hypochlorite	ca. 14	> 480	6
Sulphuric Acid	10 50	> 480	6
Phenol / Sodium Hydroxide 1 : 1	40 : 40	> 480	6

Non-Classified Mediums to EN 467

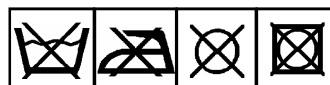
Acetone	2 mins	Methyl Ethyl Ketone	2 mins
Ammonia Solution	6 mins	Unleaded Petrol	4 mins
Ethanol	2 mins	Xylenes (mixed)	4 mins

Chemical Protective Clothing



Protection To Parts Of The Body

Wash Care Instructions :-



Product Designation

This garment has been manufactured to meet the stringent demands of **BS EN 467 : 1995**.

Tested To BS EN 467 : 1995

Test results are obtainable from the manufacturer, from which the performance levels of the tested product can be ascertained.

*Explanation Of The Pictogram

The pictogram of the "chemical flask" indicates that this garment has been tested as Chemical Protective Clothing - Protection To Parts Of The Body - in accordance with the requirements of **BS EN 467 : 1995**.

Application

This garment provides **Chemical Protection To Parts Of The Body**, in accordance with the requirements of **BS EN 467 : 1995**.

For certain applications Approved Ancillaries such as Hoods, Boots, Gloves and Respiratory Equipments must be worn with this garment.

Alpha Solway Limited and it's distributors cannot accept responsibility for improper use of this garment.

Limitation On Use

This garment provides protection **WITHIN THE APPLICATION of BS EN 467 : 1995** as Chemical Protective Clothing – Protection To Parts Of The Body.

Whilst use of a combination of such products can afford a degree of full body protection it is recommended that in areas where such protection is required a **one-piece suit** be worn.

Standard And Bespoke Sizing Requirements

Alpha Solway Limited make the statement that manufacture of this garment is in sizes either bespoke for the individual or can be supplied as per normal sizing designations – label designation applies.

Storage And Maintenance

It is recommended that the Wash Instructions as detailed on the care label are followed.

The following information should also be noted and followed:-

- 1... It is recommended that the garment be **RINSED DOWN ONLY** to remove chemical contamination and allowed to drip dry well clear of continuous UV (Sunlight) or Artificial UV (Lighting) Sources.

- 2... This garment has been decontaminated in accordance with the care instructions a maximum of 25 times.

- 3... Store in a cool dry environment – always hang to avoid creases.

- 4... For safety, always check garment for Creases, Damage, Pin Tears or Holes prior to wear. If the material becomes torn, abraded or punctured, the wearer should discontinue use to avoid potential exposure to hazard.

Should you require any assistance or further technical information regarding this garment, please phone the Company at the telephone number provided, and ask for the **Sales Department**.

EC Type Examination Certificate

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ELLESMERE PORT,
Cheshire. CH65 3EN.

EC Notified Body Number **0120**