

## BST Stackable Jugs | BU1JU8 \*



### BST Stackable Jugs

BST stackable jugs are manufactured using our own XDETECT® polypropylene compound. These strong, durable jugs are fully metal detectable, x-ray visible, and incorporate silver ion antimicrobial technology, effective against harmful bacteria and mould, including E-coli, MRSA and Salmonella.

Their conveniently designed spouts optimise the flow of liquid out of the jug, adding greater control and accuracy, and minimising any accidental spillage. The jugs feature embossed capacity markings internally and externally, in metric millilitres, imperial

pints and fluid ounces. The jugs are easy to store and transport thanks to their stackable design, which allows them to be sturdily stacked up to 15 units high. BST XDETECT® is highly shatter and snap resistant, strong and durable. These properties are an integral part of this material, which is designed not break into potential foreign bodies, and if it does, it's designed to be highly metal detectable, x-ray visible and visually identifiable to minimise the risk of foreign body contamination as far as possible. BST stackable jugs comply with European and US food contact legislation.

### BST Stackable Jugs Advantages

- ✓ Detectable by in-line metal detection systems & x-ray inspection systems
- ✓ Incorporates antibacterial technology to protect against pathogenic germs and moulds
- ✓ Available in two bright colours, two sizes and feature internal and external capacity markings
- ✓ Strong, durable, shatter resistant & chemically resistant material
- ✓ Compliant with EU & FDA food contact legislation, including mandatory EU migration test standards
- ✓ Can be used as part of HACCP and BRC procedures
- ✓ Displays due diligence in the prevention of foreign body contamination

## Product and Packaging Information

1 Litre Jug - Blue	BU1JU81LDB	Weight	0.15kg
1 Litre Jug - Red	BU1JU81LDR	Weight	0.15kg
2 Litre Jug - Blue	BU1JU82LDB	Weight	0.25kg
2 Litre Jug - Red	BU1JU82LDR	Weight	0.25kg
Pack Size	1	Material	BST XDETECT®
Colour(s)	B,R	Detectability	Metal & X-Ray Visible
Temperature Range	- 30 + 80 °C	Commodity Code	39269097

## Safety Certificates / Approvals

FDA Approved	Kosher Certified	BRC Compliant	Made In Britain
EU Compliant	Incorporates SteriTouch®	ISO 9001:2015	



## Animal Derivatives

To the best of our knowledge there are no ingredients in the formulation of this material that is of animal origin. As such, this material should not pass on any animal derived disease like BSE (Bovine Spongiform Encephalopathy) or other TSE (Transmissible Spongiform Encephalopathy).

## Food Contact Status (EU)

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Hereby we declare that the material XDETECT® in various colours is manufactured in line with the relevant requirements of 2023/2006/EC on good manufacturing practice (GMP) for materials and articles intended to come into contact with food.

The raw materials used in the manufacturing process of the above mentioned materials (XDETECT® in various colours) can be considered suitable for food contact applications in terms of compliance with European regulations. The raw materials used meet the relevant requirements of EU Framework Regulation 1935/2004 on materials and articles intended to come into contact with food.

All monomers, starting substances and additives used to manufacture these grades are listed in Commission Regulation (EU) No. 10 (2011) on plastic materials and articles intended to come into contact with food. Applicable restrictions on monomers, additives etc.

(SML, QM) are available on request. The finished articles are required to meet the Overall Migration Limit (OML) of 10 mg/dm(sq) or 60 mg/kg food.

Colourants used are compliant with European Council Resolution AP(89) 1 on the use of colourants in plastic materials coming into contact with food.

XDETECT® (various colours) is compliant with Directive 1895/2005/EC on the restriction of use of certain epoxy derivatives (BADGE, BFDGE, NOGE), since the latter substances are not intentionally used in the manufacturing process of XDETECT®.

BST Detectable Products hereby declare that articles manufactured from BST XDETECT® are, according to EU regulations, authorised to come into direct contact with all types of foodstuffs at a maximum temperature of 40°C for a maximum time period of one hour.

## Food Contact Status (FDA)

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The polypropylene base resin used in XDETECT® meets the FDA (Food and Drug Administration) requirements contained in the Code of Federal Regulations – latest revision (1/4-2011) - in 21 CFR 177.1520 (a) (3) (i) , (b) and (c) (3.1a).

At the same time this base resin grade meets the FDA criteria in 21 CFR 177.1520 for food contact applications, excluding cooking, listed under conditions of use C through H in 21 CFR 176.170 (c), Table 2., and can be used in contact with all food types as listed in 21 CFR 176.170 (c), Table 1. Also the mineral additives and the pigments used are GRAS (Generally Recognized As Safe) or are FDA cleared under specific FDA citations.

## Migration Testing

The following overall migration results for XDETECT® were obtained using a UKAS accredited laboratory, with overall migration simulants and conditions as detailed in EU Regulation No 10/2011 as amended, on plastic materials and articles intended to come into contact with food.

Sample: PP-C-2013/393

Test conditions: Simulants A, B and 95%v/v ethanol: 10 days at 40°C. Iso-octane: 2 days at 20°C

Method	EN-1186-3 Migration into 10% v/v Ethanol (Simulant A)	EN-1186-3 Migration into 3% w/v Acetic Acid (Simulant B)	EN-1186-14§ Migration into Iso-octane (Substitute test)	EN-1186-14§ Migration into 95% Ethanol (Substitute test)
Replicate #1	0.2 mg/dm <sup>2</sup>	0.5 mg/dm <sup>2</sup>	19.4 mg/dm <sup>2</sup>	0.8 mg/dm <sup>2</sup>
Replicate #2	0.3 mg/dm <sup>2</sup>	0.5 mg/dm <sup>2</sup>	21.0 mg/dm <sup>2</sup>	0.9 mg/dm <sup>2</sup>
Replicate #3	0.0 mg/dm <sup>2</sup>	0.3 mg/dm <sup>2</sup>	20.8 mg/dm <sup>2</sup>	0.6 mg/dm <sup>2</sup>
Mean Result	0.2 mg/dm <sup>2</sup>	0.4 mg/dm <sup>2</sup>	20.4 mg/dm <sup>2</sup>	0.8 mg/dm <sup>2</sup>
EU Limit	10.0 mg/dm <sup>2</sup>	10.0 mg/dm <sup>2</sup>	#20.0 mg/dm <sup>2</sup>	10.0 mg/dm <sup>2</sup>
Tolerance			#6.0 mg/dm <sup>2</sup>	

#Limit and tolerance are quoted after the application of a fatty food reduction factor of 2 as quoted in EU Regulation 10/2011. To summarise the overall migration test results, the PP-C-2013/393 complies with the overall migration requirements given in EU Regulation 10/2011, as amended, with regards to use with all non-fatty foods, aqueous foods and fatty foods that require a reduction factor of 2 (or greater), as given in EU regulation 10/2011, as amended.

## Antibacterial Technology

BST stackable jugs are manufactured from XDETECT® with built in silver ion antimicrobial technology, supplied by our partners SteriTouch. This technology offers continuous protection against cross infection, reducing the risk of spreading pathogenic germs such as MRSA, E.Coli and Salmonella. The antibacterial surface protection harnesses the natural sterilising properties of silver; this protection is permanently embedded into the XDETECT® compound and will not wear off over time.

These antibacterial properties have been laboratory tested and proven to be effective against harmful bacteria and mould including but not limited to:

### Bacterium

Bacillus Cereus  
Bacillus Subtilis  
Campylobacter  
Klebsiella Pneumonia  
Pseudomonas Aeruginosa  
Streptococcus Mutans  
Streptococcus Pyogenes  
Vibri Parahaemolyticus  
MRSA  
E.Coli  
Salmonella

### Fungus

Aspergillus Niger  
Aureobasidium Pullulans  
Candida Albicans  
Cladosporium Cladosporioides  
Fusarium Solani  
Penicillium Funiculosum

## Antibacterial Technology Continued

The antibacterial additive used in XDETECT® complies with the relevant requirements of Regulation 1935/2004/EC (Framework Regulation), applicable to intermediate materials (e.g. plastic powders, plastic granules or plastic flakes) and also with the relevant requirements of Regulation 10/2011/EC (PIM), applicable to intermediate materials (e.g. plastic powders, plastic granules or plastic flakes).

The monomers and additives used to produce the antibacterial additive are listed in the Union List of Authorized Substances of Regulation 10/2011/EC. Dual use additives subject to restrictions in food as defined in Regulation 10/2011/EC are not intentionally used in the manufacture of or formulation of this product.

## Antibacterial Laboratory Testing Method

All testing is conducted by an independent laboratory using the JIS Z 2801:2000 test method. Where possible, all test materials are taken from samples of the actual product. Samples typically measure 50mm x 50mm as specified by the JIS Z 2801:2000 method, although where this is impractical it is permissible to use smaller samples with the method being modified accordingly.

Each test sample is inoculated with a suspension of the test organism (for example MRSA). The inoculum is held in contact with the test sample using a sterile polyethylene film. All test samples are inoculated in triplicate, with an additional three replicates of the control.

The bacterial population on three control replicates is evaluated immediately following inoculation. This is assumed to be the initial population on all test samples. The remaining samples are incubated for the test period (typically 24 hours) at 35°C, at which time the bacterial population is evaluated.

## Antibacterial Laboratory Testing Results

Salmonella Results Table

Sample Material	Bacterium	CFU at 0 Hours	CFU at 24 Hours	Comparison
Control	Salmonella. enteritidis	150000	140000	N/A
BST XDETECT®	Salmonella. enteritidis	150000	<10	99.999% reduction

MRSA Results Table

Sample Material	Bacterium	CFU at 0 Hours	CFU at 24 Hours	Comparison
Control	MRSA	100000	470000	N/A
BST XDETECT® A	MRSA	100000	<10	99.998% reduction
BST XDETECT® B	MRSA	110000	<10	99.998% reduction
BST XDETECT® C	MRSA	110000	<10	99.998% reduction

E.Coli Results Table

Sample Material	Bacterium	CFU at 0 Hours	CFU at 24 Hours	Comparison
Control	E. Coli	140000	11000000	N/A
BST XDETECT® A	E. Coli	140000	<10	99.999% reduction
BST XDETECT® B	E. Coli	140000	<10	99.999% reduction
BST XDETECT® C	E. Coli	140000	<10	99.999% reduction

## Metal Detectability

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BST stackable jugs are made using XDETECT®, an electromagnetically detectable and x-ray visible plastic compound. The metal detectability of this product will vary based on, but not limited to:

- Calibration Levels
- Product Type (E.g. Wet, Dry, Frozen, Liquid)
- Aperture Dimensions
- Orientation

Orientation is a highly influential factor for the metal detectability of a contaminant that is non spherical, i.e. it will be easier to detect the contaminant when passing in one orientation compared to another - this is known as the orientation effect.

For this reason BST recommend that all our products be thoroughly tested on your metal detection systems by a trained and certified professional. It may be the case that your equipment needs to be re-calibrated in order to reliably detect this product. Such a professional should be available by contacting the manufacturer of your metal detection system.

## X-Ray Visibility

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In contrast to metal detection, x-ray visibility is determined by material density. For this reason, XDETECT® contains an additional, evenly dispersed, food safe, high density additive. X-ray detection performance will be reduced when small fragments are buried in deeper, denser products - detection will depend on product type and density.

We highly recommend that all our products be thoroughly tested on your x-ray inspection systems by a trained and certified professional. It may be the case that your equipment needs to be recalibrated in order to reliably detect this product. Such a professional should be available by contacting the manufacturer of your x-ray inspection system.

The information provided in this product specification sheet is based on our experience and knowledge to date and we believe it to be true and reliable. This information is intended as a guide for your use of our products, the use of which is entirely at your own discretion and risk. We, BS Teasdale & Son Ltd, cannot guarantee favourable results and assume no liability in connection with the use of our products. © 2020 BS Teasdale & Son Ltd. All Content, Data & Images are owned by BS Teasdale & Son Ltd and are protected by international copyright law. SteriTouch® is a registered trademark of Radical Materials Ltd

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