SPECIFICATION SPN223/8

NHSBT Portfolio of Blood Components and Guidance for their Clinical Use

This Specification replaces SPN223/7

Copy Number

Effective: **21/12/16**

Summary of Significant Changes

Introduction of HEV testing, and Pooled Platelets in Plasma/Additive mixture

Amendment to interruption of platelet agitation, and FFP post thaw shelf-life

Additional data for non stock and special component availability

Purpose

To provide details of the therapeutic blood components currently supplied to hospitals

Definitions

Refer to Appendix 6

Applicable Documents

ESD1 – Guidelines for the Blood Transfusion Services in the United Kingdom. Current edition. TSO (The Stationery Office) Norwich, 2013.
http://www.transfusionguidelines.org.uk/

MPD42 – Review & Revision Process for 'NHSBT Portfolio of Components & Guidance for Clinical Use'

CONTENTS

Introduction

This portfolio contains specification sheets for all blood components routinely produced by NHSBT. Not all components are manufactured in all centres, but can be obtained if requested through your local Hospital Services Department. Some requests will require discussion of the clinical case with a NHSBT consultant and/or advance notice may be required.
The information in this portfolio will be reviewed annually. New components may be added between reviews. MPD42 details the review process.

Quality Standards

All Centres are inspected by the Medicines and Healthcare Products Regulatory Agency (MHRA), and hold Blood Establishment status under the Blood Safety and Quality Regulations 2005[1]. They may also be inspected by other third party accreditation bodies such as United Kingdom Accreditation Service (UKAS) and are subject to regular peer audit.

Blood, blood components, products and services must comply with the requirements of the current edition of the following standards:

- European Union Commission Directives 2002/98/EC and subsequent documents 2004/33/EC, 2005/61/EC and 2009/135/EC
- Rules and guidance for Pharmaceutical Manufacturers and Distributers (The Orange Guide).
- UK Acts of Parliament. Blood Safety and Quality Regulations 2005(BSQR). Statutory Instrument 2005/50 (ISBN 0110516222) [1]
- Guidelines for the Blood Transfusion Services in the United Kingdom (Red Book) [2].
- ISO 15189.
- Council of Europe. Guide to the preparation, use and quality assurance of blood components.

Quality monitoring of blood components

Regular monitoring is undertaken to ensure that blood components continue to meet the specifications defined in the Guidelines for the Blood Services in the UK [2].
All components, except granulocytes and buffy coats, are leucodepleted by methods which are demonstrated to leave a residual WBC count of $< 5 \times 10^6$ leucocytes/unit in > 99 % of units and $< 1 \times 10^6$ leucocytes/unit in > 90% of units both with 95% statistical confidence.
A national quarterly report is produced for, and reviewed by, the Component Strategy Group (CSG). Quality monitoring data in the quarterly report provides the NHSBT mean figures on the individual component specification sheets.

Concessionary release of components not conforming to specified requirements

In the event that a component is required urgently and it does not meet the required specification, it may be released under ‘concession’ following consultation and agreement between an NHSBT consultant and the hospital consultant. The requirement needs to be clinically justified and is for use on a single named patient basis only.

Donor Assessment

All donors are assessed by interview and formal questionnaire according to the Whole Blood and Component Donor Selection Guidelines (a constituent part of the Guidelines for Blood Transfusion Services in the United Kingdom) [2]

Serological and Microbiological Testing

All NHSBT donations are tested as follows, prior to issue:

- ABO, Rh and K blood group antigens
- High titre anti-A, anti-B and atypical red cell antibodies
- Hepatitis B surface antigen (HBsAg)
- HIV 1 and 2 antigen and antibody
- Antibodies to HCV, syphilis and HTLV-I and -II
- HBV, HCV and HIV genome (Nucleic Acid Amplification Technology (NAT) testing)
- HTLV-I and -II antibody testing will be restricted to first time donors and for buffy coats and pooled granulocytes

Very short shelf-life components (e.g. intra-uterine platelets and granulocytes) can be issued before HIV, HBV, HCV NAT and HTLV-I and -II results are available. These components are sourced from donors who have been previously tested and found negative for these markers.

Additional Testing

Donors are tested for Malaria, T. Cruzi antibodies and West Nile Virus when indicated by their travel history. Other discretionary tests include anti-HBc (e.g. after body piercing) and HbS (sickle cell test). A proportion of donations are tested for CMV antibodies and extended red cell phenotypes. A panel of platelet apheresis donors are HLA-typed, and HLA matched platelets are available.

NHSBT also stocks a small number of special components:

- HPA-1a/5b negative red cells and platelets
- Red cells, FFP and platelets from IgA deficient donors (washed red cells are a suitable alternative for IgA deficient patients)
- FFP from low-titre anti-T donors
- Some standard and washed red cells, FFP, single and pooled cryoprecipitate, pooled and apheresis platelets will be HEV RNA negative.

Standard platelets are screened for bacterial contamination and have a seven day shelf life.

Irradiation

- NHSBT irradiates some cellular clinical components using Gamma or X-ray irradiation.
- BSCH Guidelines list the clinical indications for the use of irradiated components[3]
- It is not necessary to irradiate non-cellular frozen components.

Administration of Blood Components[4]

Refer to:

BCSH Guidelines on the Administration of Blood Components[4]

Guidelines for Compatibility Procedures[5]

Handbook of Transfusion Medicine [6]

Blood Component Development.

NHSBT strives to improve the blood components manufactured. Information on any new components that are not routinely issued but are under development may be found in appendix 4.

Any components that are not routinely available for order but may be used in contingency situations, and therefore need details included on hospital IT systems, can be found in appendix 5.

Feedback

If you are dissatisfied with the blood components or services provided, please inform your local Customer Services Manager. This is important to us in order to understand and meet your needs. There is a national customer complaint procedure to measure our performance and ensure that we handle all complaints effectively.

Communication

All formal communications and requests for components and services should be made through the hospital Haematologist and Blood Transfusion Laboratory.

NHSBT is happy to provide advice or to discuss transfusion related problems, this can be accessed by contacting your local Hospital Services Department or Customer Services Manager. Also NHSBT Consultants are available to provide transfusion related clinical advice and can be contacted via your local NHSBT Hospital Services Department.

Responsibilities of NHSBT and Hospital

NHSBT is responsible for the quality of blood components and services supplied until the point of delivery or collection by purchaser. Hospital Transfusion Laboratories assume responsibility upon receipt of blood components for their correct storage, handling, compatibility testing, issue and documentation.

STANDARD RED CELL COMPONENTS - GENERAL INFORMATION

Clinical Indications

To raise the oxygen-carrying capacity of the blood when it is symptomatically reduced due to red cell loss or reduced erythropoiesis. Hospitals should have protocols in place to guide transfusion management according to haemoglobin triggers and targets.

Dosage should be determined by a medical practitioner.

Contraindications, cautions

Fluid overload may be precipitated in patients with expanded plasma volume, heart failure or hyperviscosity syndromes.
Patients with red cell antibodies will require more extensive compatibility testing, and may require provision of phenotyped red cells. Please give as much notice as possible when requesting these components.

Adverse effects: Refer to the Handbook of Transfusion Medicine.[6]

Storage and Handling

Store at 4 ± 2 ℃ in an approved blood refrigerator fitted with a temperature recorder and alarm.

When in transit (except immediately prior to transfusion), blood should be kept in a validated and approved container and appropriate records kept according to local procedures.

For occasions when red cells are removed from 4 ± 2 ℃ controlled storage (e.g. when issued to a clinical area immediately prior to transfusion) and returned then:

If possible, time out of a controlled temperature environment should be restricted to less than 30 minutes. If 30 minutes is exceeded the unit should not be returned to the issue location in the refrigerator, but returned to the transfusion laboratory or quarantined remotely using electronic blood tracking.

Up to 60 minutes out of controlled temperature is acceptable, provided the unit is then quarantined by placing in a secure refrigerator for at least 6 hours prior to reissue, to allow the unit to return to 4 ± 2 ℃. Hospitals will need to identify such units so that they are not subject to being out of controlled temperature storage for between 30 and 60 minutes on more than three occasions.

N.B. These recommendations do not apply to washed or frozen-washed red cells: return and re-issue of these components following removal from a controlled environment should be subject to risk assessment and issue under clinical concession.

Transfusion should be completed within 4 hours of issue out of a controlled temperature environment.

Special Requirements

Irradiated red cells are available for recipients at risk of transfusion associated graft versus host disease (TA-GvHD)[3]
Red cell units which are CMV seronegative should be given to recipients at highest risk of CMV disease. Blood components which are leucodepleted shortly after collection by validated methods are deemed by many experts to be CMV safe. Further guidance is provided in the Handbook of Transfusion Medicine.[6]

Red Cell selection for ABO group

Recipient's group	O	A	B	AB
1st choice	O	A	B	AB
2nd choice	-	O	O	A or B
3rd choice	-	-	-	O

Rh D red cell selection

1. Red cells of the correct Rh D type should be used.
2. Recipients with preformed anti-D antibodies should receive RhD negative red cells
3. In an emergency, females of child bearing age, if the Rh group is unknown, should receive RhD negative red cells

Red Cells in Additive Solution

Each unit is obtained from a standard donation of 475 mL (range of 427.5 - 522.5mL) blood from a single donor bled into 66.5 mL of Citrate Phosphate Dextrose (CPD) anticoagulant. During processing the majority of plasma is removed and replaced by additive solution comprising saline, adenine, glucose and mannitol (SAG-M). A standard red cell component in additive solution contains red cells (Hct 0.50 - 0.70 and Hb content > 40 g/unit), 5 – 30 mL of plasma, and 100 mL of SAG-M solution in a total volume of 220 - 340mL. Red cells in additive solution can also be collected by apheresis.

Standard red cells contain no functional platelets, granulocytes or coagulation factors.

Double Dose Red Cells
From April 2016, some donor centres will begin to collect double dose red cells from group O negative, B negative and Ro donors to evaluate the potential benefit on availability of these vulnerable group red cells. This will continue for at least 12 months and the donations will be placed into normal stock.

Red cells, washed

Red cells from a single donor from which most of the plasma has been removed by sequential washing and resuspension in 0.9% saline if manually produced or 100mL SAGM additive solution in an automated, closed system.

The initial request needs to be made through a NHSBT consultant.

Specific clinical indications: When there is history of recurrent and/or severe allergic reactions or febrile reactions to transfusion. Washed red cells can be used for IgA deficient patients with anti-IgA antibodies if red cells from IgA deficient donors are not available.

Storage and handling: As in general information, shelf life for both irradiated and non irradiated automated washed cells is set at 14 days post washing and irradiation (washing may occur up to day 14 following bleed) As a contingency, NHSBT also has a manual method of preparation resulting in a component suspended in saline rather than SAGM when automated procedures are not available. These manually washed red cells will have a 24 hour shelf life starting from commencement of the washing process. Remaining shelf life on receipt will be <24 hours.

Red cells, thawed and washed

These are red cells which have been frozen in the presence of a cryoprotectant, thawed and washed on request.

Specific clinical indications: Red cells of rare phenotype/s which cannot be easily provided from current stock but are stored in the National Frozen Blood Bank.

Storage and handling: Refer to the section above in general information for red cells.
The shelf life of this component is limited to 24 hours if produced in an open system and 72 hours when using the automated closed production system. The final suspension medium is SAGM regardless of production systems used.

Transportation:
It should be noted that, occasionally, red cell components are issued before they have been cooled to their storage temperature (4 ± 2℃). In such circumstances, it may be neither possible nor necessary to maintain the transport temperature within the range 2–10℃ and local judgement should be exercised.[2]

Red cells, leucodepleted

These are red cells suspended in plasma. This component is not generally available.
The Component Specification sheet for this and barcode are available in appendix 5.

Autologous blood

The collection of autologous blood prior to elective surgery should only be considered in exceptional circumstances, e.g. rare red cell antibodies. Any requests should be discussed with a NHSBT consultant.
The Component Specification sheet for this and barcode are available in appendix 5.

Specification sheets for

RED CELLS

Component name	**Red Cells in Additive Solution LD**

Red Book reference	8th Edition Section 7.6

Parameter	NHSBT mean	NHSBT/UK Specification	Note
Volume (mL)	282	220-340	
Haemoglobin (g/unit)	52.8	>40	
Haematocrit (L/L)	0.58	N/A	
WBC count ($x10^6$/unit)	0.29	<1	
Granulocytes (x 10^9/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	N/A	N/A	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	N/A	<0.8%	Of red cell mass at the end of shelf life
pH at expiry	N/A	N/A	

Anticoagulant(s)	CPD (other anticoagulant may be used for red cells collected by component donation)
Suspension medium	SAG-M
Shelf Life	35 days
Availability	Stock
Storage	4℃±2℃.
Transport	The component surface temperature must be maintained between 2℃ and 10℃ during transportation.
CMV status	Available as CMV Negative
Red cell phenotype	Available on request. Some phenotypes may require 24hrs notice.
Additional testing requirement	Limited HEV negative stock available
Donor Specification	Standard
Additional notes	

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
0054	a0	04333	3b	From whole blood donation
0057	a0	04216	3b	Pack 1 from component donation
0058	a0	04217	3b	Pack 2 from component donation

Component name	**Red Cells in Additive Solution LD, Irradiated**

Red Book reference	8th Edition Section 7.6 & 7.31

Parameter	NHSBT mean	NHSBT/UK Specification	Note
Volume (mL)	282	220-340	
Haemoglobin (g/unit)	52.8	>40	
Haematocrit (L/L)	0.58	N/A	
WBC count $x10^6$/unit)	0.29	<1	
Granulocytes (x 10^9/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	N/A	N/A	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	N/A	<0.8%	Of red cell mass at the end of shelf life
pH at expiry	N/A	N/A	

Anticoagulant(s)	CPD (other anticoagulant may be used for red cells collected by component donation)
Suspension medium	SAG-M
Shelf Life	14 days from date of irradiation for adult use
Availability	Stock
Storage	4℃±2℃.
Transport	The component surface temperature must be maintained between 2℃ and 10℃ during transportation.
CMV status	Available as CMV Negative
Red cell phenotype	Available on request. Some phenotypes may require 24hrs notice.
Additional testing requirement	Limited HEV negative stock available
Donor Specification	Standard
Additional notes	Component must be irradiated within 14 days of donation

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
G054	a0	44333	3b	From whole blood donation
G057	a0	04316	3b	Pack 1 from component donation
G058	a0	04317	3b	Pack 2 from component donation

Component name	**Red Cells, Washed, LD**

Red Book reference	8th Edition Section 7.7

Parameter	NHSBT mean	NHSBT/UK Specification	Note
Volume (mL)	261	220-320	
Haemoglobin (g/unit)	49.9	>40	
Haematocrit (L/L)	N/A	N/A	
WBC count ($x10^6$/unit)	N/A	<1	
Granulocytes ($x\ 10^9$/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	N/A	N/A	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb (g/unit)	N/A	N/A	
pH at expiry	N/A	N/A	

Anticoagulant(s)	N/A
Suspension medium	SAG-M
Shelf Life	14 days from date of preparation
Availability	Limited stock availability. Phenotyped units by special order only with up to 24hrs notice. Please see Appendix 7, "Availability of Non Stock and Special Components", for further information including availability for urgent requests.
Storage	$4^oC \pm 2^oC$
Transport	The component surface temperature must be maintained between 2^oC and 10^oC during transportation.
CMV status	Available as CMV Negative.
Red cell phenotype	Available on request.
Additional testing requirement	Limited HEV negative stock available
Donor Specification	Standard.
Additional notes	Residual protein < 0.5 g/unit. Mean 0.18g/unit Component produced using an automated system

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
0074	a0	10010	3b	From single unit

Component name	**Red Cells, Washed, LD, Irradiated**

Red Book reference	8th Edition Section 7.7 & 7.31

Parameter	NHSBT mean	NHSBT/UK Specification	Note
Volume (mL)	260	220-320	
Haemoglobin (g/unit)	49.9	≥40	
Haematocrit (L/L)	N/A	N/A	
WBC count ($x10^6$/unit)	N/A	<1	
Granulocytes ($x\ 10^9$/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	N/A	N/A	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb (g/unit)	N/A	N/A	
pH at expiry	N/A	N/A	

Anticoagulant(s)	N/A
Suspension medium	SAG-M
Shelf Life	Unless for neonatal use, up to 14 days from date of collection
Availability	Limited stock availability. Phenotyped units by special order only with up to 24hrs notice. Please see Appendix 7, "Availability of Non Stock and Special Components", for further information including availability for urgent requests.
Storage	$4^oC \pm 2^oC$
Transport	The component surface temperature must be maintained between 2^oC and 10^oC during transportation.
CMV status	Available as CMV Negative.
Red cell phenotype	Available.
Additional testing requirement	Limited HEV negative stock available
Donor Specification	Standard
Additional notes	Component must be irradiated within 14 days of donation. Residual protein < 0.5 g/unit Mean 0.18g/unit Component produced using an automated system

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
G074	a0	20010	3b	From single unit

Component name	**Red Cells, Thawed and Washed (Manual Preparation)**

Red Book reference	8th Edition, Section 7.8

Parameter	NHSBT mean	NHSBT/UK Specification	Note
Volume (mL)	292	locally defined	
Haemoglobin (g/unit)	44	>36	
Haematocrit (L/L)	N/A	N/A	
WBC count ($x10^6$/unit)	< 0.3	<1	Pre-freeze
Granulocytes ($x\ 10^9$/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	N/A	N/A	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	0.13	<2.0	Per unit
pH at expiry	N/A	N/A	

Anticoagulant(s)	N/A
Suspension medium	SAGM
Shelf Life	24 hrs from time of preparation
Availability	24 hours notice preferred for planned procedures, shorter time for urgent requests. Please see Appendix 7, "Availability of Non Stock and Special Components", for further information including availability for urgent requests.
Storage	4℃±2℃.
Transport	The component surface temperature may not be between 2℃ and 10℃ during transportation since it is not always possible to cool it to its storage temperature of (4 ±2℃) prior to issue.
CMV status	N/A
Red cell phenotype	Available by arrangement for specific phenotypes
Additional testing requirement	Limited HEV negative stock available
Donor Specification	Standard
Additional notes	Frozen using a manual technique but thawed and washed using an automated system

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
0071	a0	06460	3b	

Component name	**Red Cells, Thawed and Washed, (Closed System Preparation)**

Red Book reference	8th Edition, Section 7.8

Parameter	NHSBT mean	NHSBT/UK Specification	Note
Volume (mL)	291	225-325	Pre-freeze
Haemoglobin (g/unit)	43	>36	
Haematocrit (L/L)	N/A	N/A	
WBC count ($x10^6$/unit)	< 0.3	<1	Pre-freeze
Granulocytes (x 10^9/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	N/A	N/A	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	0.16	<2.0	Per unit
pH at expiry	N/A	N/A	

Anticoagulant(s)	N/A
Suspension medium	SAG-M
Shelf Life	3 days
Availability	24 hours notice preferred for planned procedures, shorter time for urgent requests. Please see Appendix 7, "Availability of Non Stock and Special Components", for further information including availability for urgent requests.
Storage	4℃±2℃.
Transport	The component surface temperature may not be between 2℃ and 10℃ during transportation since it is not always possible to cool it to its storage temperature of (4 ±2℃) prior to issue
CMV status	N/A
Red cell phenotype	Available by arrangement for specific phenotypes.
Additional testing requirement	Limited HEV negative stock available
Donor Specification	Standard
Additional notes	Prepared for freezing, and thawed and washed, using automated systems.

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
0072	a0	54263	3b	

Component name	**Red Cells, Washed LD (Manual Preparation)**

Red Book reference	8th Edition, Section 7.7

Parameter	NHSBT mean	NHSBT/UK Specification	Note
Volume (mL)	266	220-340	
Haemoglobin (g/unit)	51	>40	
Haematocrit (L/L)	N/A	0.5-0.7	
WBC count ($x10^6$/unit)	< 0.30	< 1	Pre-washing
Granulocytes (x 10^9/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	N/A	N/A	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	N/A	< 0.8%	Of red cell mass at the end of shelf life
pH at expiry	N/A	N/A	

Anticoagulant(s)	N/A
Suspension medium	0.9% w/v sodium chloride
Shelf Life	24 hrs from time of preparation.
Availability	24 hours notice preferred for planned procedures, shorter time for urgent requests. Please see Appendix 7, "Availability of Non Stock and Special Components", for further information including availability for urgent requests.
Storage	4℃±2℃.
Transport	The component surface temperature must be maintained between 2℃ and 10℃ during transportation.
CMV status	Available as CMV Negative
Red cell phenotype	Available by arrangement for specific phenotypes.
Additional testing requirement	N/A
Donor Specification	Standard
Additional notes	Residual protein < 0.5 g/unit

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
0064	a0	04403	3b	

Component name	**Red Cells, Washed, LD, Irradiated (Manual Preparation)**

Red Book reference	8th Edition, Section 7.7 & 7.31

Parameter	NHSBT mean	NHSBT/UK Specification	Note
Volume (mL)	266	220-340	
Haemoglobin (g/unit)	51	>40	
Haematocrit (L/L)	N/A	0.5-0.7	
WBC count ($x10^6$/unit)	< 0.30	< 1	Pre-washing
Granulocytes (x 10^9/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	N/A	N/A	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	N/A	< 0.8%	Of red cell mass at the end of shelf life
pH at expiry	N/A	N/A	

Anticoagulant(s)	N/A
Suspension medium	0.9% w/v sodium chloride
Shelf Life	24 hrs from time of preparation.
Availability	24 hours notice preferred for planned procedures, shorter time for urgent requests. Please see Appendix 7, "Availability of Non Stock and Special Components", for further information including availability for urgent requests.
Storage	4℃±2℃.
Transport	The component surface temperature must be maintained between 2℃ and 10℃ during transportation.
CMV status	Available as CMV Negative
Red cell phenotype	Available
Additional testing requirement	N/A
Donor Specification	Standard
Additional notes	Product must be irradiated within 14 days of donation Residual protein < 0.5 g/unit

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
G064	a0	44403	3b	

STANDARD PLATELET COMPONENTS – GENERAL INFORMATION

Description

Standard platelet components are currently produced via two processes:

- A pool of buffy coat-derived platelets from four whole blood donations, suspended in 30-50% plasma and 70 - 50% additive solution

or

- An adult therapeutic dose (ATD) obtained from a single donor by apheresis donation, in plasma

Apheresis and pooled platelets are functionally equivalent and should be used interchangeably. However, NHSBT recommends that recipients born on or after 1st January 1996 should receive apheresis donation platelets where possible.

Clinical Indications[7]

The prevention and treatment of bleeding due to thrombocytopenia or platelet function defects.

Adverse Effects; Refer to the Handbook of Transfusion Medicine.[6]

Storage and Handling

Store at $22^{o}C \pm 2^{o}C$ with constant gentle agitation in an approved incubator with a temperature recorder and alarm. Platelets should be agitated during storage. If agitation is interrupted, for example due to equipment failure or prolonged transportation, the components are suitable for use, retaining the same shelf life, provided the interruption are for no longer than a total of 24 hours and no single interruption lasts for more than eight hours..
When in transit (except immediately prior to transfusion), platelets should be kept in a validated and approved container and appropriate records kept in accordance with local procedures.

Platelet components must not be placed in a refrigerator.

Transfusion should ideally be commenced within 30 minutes of removal from the platelet storage incubator.

Shelf life: 7 days - All platelets that have a 7-day shelf life have been bacteriologically screened in line with quality requirements and guidelines for bacterial screening.
5 days - If not bacteriologically screened.

Dosage

One standard adult therapeutic dose (ATD) is either one apheresis donation pack or a pool derived from four buffy coats from whole blood donations. Larger doses are required in acute bleeding, non-immune refractoriness, DIC and AITP.

Compatibility

Platelets of all blood groups including AB are manufactured and stocked thus ABO and RhD identical units should be used as far as possible. Due to the population distribution of group AB and its value as a universal plasma donor, stocks may be limited at times.

ABO non-identical units may be given, especially at times of shortage or in emergency situations, where no ABO identical platelets are immediately available or when HLA matched platelets are required. Some studies demonstrate a poorer increment or recovery and therefore the assessment of clinical and platelet

count response (by measurement of post-transfusion count) is recommended. High Titre (HT) negative units are available to reduce the risk of haemolysis from the use of minor ABO mismatched units.

Platelet selection for ABO group

Recipient's group	O	A	B	AB
1st choice	O	A	B	AB
2nd choice	A or B	AB	AB	A or B
3rd choice	AB	B or O	A or O	O

Rh D negative platelet concentrates should be given to Rh D negative patients where possible, particularly to Rh D negative women of child bearing potential. When Rh D incompatible platelets are required, guidance on anti-D administration can be found in BCSH guidelines[8]

Special Requirements

Platelet concentrates should be irradiated prior to transfusion into recipients at risk of transfusion-associated graft versus host disease (TA-GvHD).
Platelet concentrates which are CMV seronegative should be given to recipients at highest risk of CMV disease. Refer to 'Handbook of Transfusion Medicine'[6]. Blood components that are leucodepleted are deemed by many experts to be CMV safe. However, units from donors found to be seronegative for CMV are available.

HLA and HPA Selected Platelets

These can be selected from platelets in stock or donors may be asked to donate platelets for an individual case following discussion with a H&I consultant in NHSBT. HPA selected platelets are stocked in Filton, Tooting, Sheffield and Manchester. **24hrs notice** is required where possible.

Specific clinical indication: For prophylaxis or treatment of bleeding in thrombocytopenic patients who are refractory to random platelets due to HLA or HPA alloimmunisation.

N.B. HLA selected platelet concentrates will be irradiated by NHSBT prior to issue.

NHSBT requires feedback on patient platelet increments (using the form issued with the selected platelets) to assess how well the platelets have been matched and inform future selection for the patient.

Platelets suspended in additive solution

Apheresis Platelets from which the majority of the plasma has been removed, and replaced by platelet additive solution (PAS). Contains platelets (one adult therapeutic dose), minimal plasma and 200 mL platelet additive solution (see Appendix 1).The first request must be made through a NHSBT consultant. Please allow adequate time for the order to be completed and delivered from Filton, Colindale, Sheffield, Manchester or Newcastle to the requesting centre.

Specific clinical indications: thrombocytopenic bleeding or prophylaxis in a patient who has a history of recurrent severe allergic reactions to plasma-containing components.

Storage and handling: As in general information except that shelf life is reduced to 24 hours from time of resuspension.

Specification sheets for

PLATELETS

Component name	**Platelets, Apheresis, LD**

Red Book reference	8th Edition, Section 7.10

Parameter	NHSBT mean	NHSBT Specification	Note
Volume (mL)	199	150-400ml/unit	
Haemoglobin (g/unit)	N/A	N/A	
Haematocrit (L/L)	N/A	N/A	
WBC count ($x10^6$/unit)	0.33	<1	
Granulocytes (x 10^9/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	278	165-510	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	N/A	N/A	
pH at expiry	7.0	6.4 – 7.4	

Anticoagulant(s)	ACD
Suspension medium	N/A
Shelf Life	7 days
Availability	Stock
Storage	22°C ± 2°C with agitation
Transport	22°C ± 2°C
CMV status	negative on request
Phenotype	HLA/HPA selected on request
Additional testing requirement	Bacterial screened Limited HEV negative stock available
Donor Specification	Requirements for apheresis donors
Additional notes	Suspended in donor plasma

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
0451	a0	54289	3b	Pack 1
0452	a0	54290	3b	Pack 2
0453	a0	54291	3b	Pack 3
0459	a0	54288	3b	(Single unit)

Component name	**Platelets, Apheresis, LD, Irradiated**

Red Book reference	8h Edition, Section 7.10 & 7.31

Parameter	NHSBT mean	NHSBT Specification	Note
Volume (mL)	199	150-400ml/unit	
Haemoglobin (g/unit)	N/A	N/A	
Haematocrit (L/L)	N/A	N/A	
WBC count ($x10^6$/unit)	0.33	<1	
Granulocytes (x 10^9/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	278	165-510	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	N/A	N/A	
pH at expiry	7.0	6.4 – 7.4	

Anticoagulant(s)	ACD
Suspension medium	N/A
Shelf Life	7 days
Availability	Stock
Storage	22°C ± 2°C with agitation
Transport	22°C ± 2°C
CMV status	negative on request
Phenotype	HLA/HPA selected on request
Additional testing requirement	Bacterial screened Limited HEV negative stock available
Donor Specification	Requirements for apheresis donors
Additional notes	Suspended in donor plasma

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
G451	a0	54293	3b	Pack 1
G452	a0	54294	3b	Pack 2
G453	a0	54295	3b	Pack 3
G459	a0	54292	3b	(Single unit)

Component name	**Platelets, Pooled in Additive Solution and Plasma, LD.**

Red Book reference	8th Edition, Section 7.11

Parameter	NHSBT mean	NHSBT/UK Specification	Note
Volume (mL)	293	150-400	
Haemoglobin (g/unit)	N/A	N/A	
Haematocrit (L/L)	N/A	N/A	
WBC count ($x10^6$/unit)	0.33	<5	EU Directive spec of <1
Granulocytes (x 10^9/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	285	>=240	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb (g/unit)	N/A	N/A	
pH at expiry	7.1	6.4 – 7.4	

Anticoagulant(s)	CPD
Suspension medium	65-70% Platelet Additive Solution / 35 - 30 % plasma
Shelf Life	7 days
Availability	Stock
Storage	22°C ± 2°C with agitation
Transport	22°C ± 2°C
CMV status	Negative on request
Red cell phenotype	N/A
Additional testing requirement	Limited HEV negative stock available
Donor Specification	Previous donation within last two years
Additional notes	

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
0E83	a0	54477	3b	

Component name	**Platelets, Pooled in Additive Solution and Plasma, Irradiated, LD**

Red Book reference	8th Edition, Section 7.11

Parameter	NHSBT mean	NHSBT/UK Specification	Note
Volume (mL)	293	150-400	
Haemoglobin (g/unit)	N/A	N/A	
Haematocrit (L/L)	N/A	N/A	
WBC count ($x10^6$/unit)	0.33	<5	EU Directive spec of <1
Granulocytes ($x\ 10^9$/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	285	>=240	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb (g/unit)	N/A	N/A	
pH at expiry	7.1	6.4 – 7.4	

Anticoagulant(s)	CPD
Suspension medium	65-70% Platelet Additive Solution / 30-35 % plasma
Shelf Life	7 days
Availability	Stock
Storage	22°C ± 2°C with agitation
Transport	22°C ± 2°C
CMV status	Negative on request
Red cell phenotype	N/A
Additional testing requirement	Limited HEV negative stock available
Donor Specification	Previous donation within last two years
Additional notes	

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
GE83	a0	54478	3b	

Component name	**Platelets, Apheresis, in Additive Solution LD**

Red Book reference	8h Edition, Section 7.12

Parameter	NHSBT mean	NHSBT Specification	Note
Volume (mL)	221	150-350ml/unit	
Haemoglobin (g/unit)	N/A	N/A	
Haematocrit (L/L)	N/A	N/A	
WBC count ($x10^6$/unit)	0.33	<1	
Granulocytes (x 10^9/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	257	165-450	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	N/A	N/A	
pH at expiry	6.9	6.4 – 7.4	

Anticoagulant(s)	ACD
Suspension medium	Platelet Additive Solution (SSP)
Shelf Life	24 hours from time of preparation
Availability	By special order only. 24 hours notice preferred for planned procedures, shorter time for urgent requests. Please see Appendix 7, "Availability of Non Stock and Special Components", for further information including availability for urgent requests.
Storage	22°C ± 2°C with agitation
Transport	22°C ± 2°C
CMV status	negative on request
Phenotype	HLA/HPA selected on request
Additional testing requirement	Limited HEV negative stock available
Donor Specification	Requirements for apheresis donors
Additional notes	

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
0421	a0	54243	3b	Pack 1
0422	a0	54244	3b	Pack 2
0423	a0	54245	3b	Pack 3
0429	a0	54246	3b	(Single unit)

Component name	**Platelets, Apheresis, in Additive Solution, LD, Irradiated**

Red Book reference	8th Edition, Section 7.2 & 7.31

Parameter	NHSBT mean	NHSBT Specification	Note
Volume (mL)	221	150-420ml/unit	
Haemoglobin (g/unit)	N/A	N/A	
Haematocrit (L/L)	N/A	N/A	
WBC count ($x10^6$/unit)	0.33	<1	
Granulocytes ($x\ 10^9$/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	257	165-450	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	N/A	N/A	
pH at expiry	6.9	6.4 – 7.4	

Anticoagulant(s)	ACD
Suspension medium	Platelet Additive Solution (SSP)
Shelf Life	24 hours from time of preparation
Availability	By special order only. 24 hours notice preferred for planned procedures, shorter time for urgent requests. Please see Appendix 7, "Availability of Non Stock and Special Components", for further information including availability for urgent requests.
Storage	22°C ± 2°C with agitation
Transport	22°C ± 2°C
CMV status	negative on request
Phenotype	HLA/HPA selected on request
Additional testing requirement	Limited HEV negative stock available
Donor Specification	Requirements for apheresis donors
Additional notes	

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
G421	a0	54233	3b	Pack 1
G422	a0	54234	3b	Pack 2
G423	a0	54235	3b	Pack 3
G429	a0	54236	3b	(Single unit)

PLASMA COMPONENTS - GENERAL INFORMATION

Fresh Frozen Plasma (FFP)

UK Plasma is obtained from whole blood or apheresis from male donors and frozen to maintain activity of labile coagulation factors.
Imported plasma can be from a male or HLA antibody tested female and is tested in the country of donation and is HEV negative, but this is not identified on the pack.

Clinical Indications[9]

Adverse Effects; Refer to the Handbook of Transfusion Medicine.[6]

Administration

Once thawed the unit should be infused within 4 hours if stored at ambient temperature. If thawed and not required immediately units of standard FFP may be stored at 4℃ ± 2℃ up to a maximum of 120 hours depending on indication. For indications other than unexpected major haemorrhage, the component should be used within 24 hours of thawing, in accordance with BCSH guidelines.

No drugs should be added directly to the unit of FFP.

Storage and Handling of Frozen Plasma Components

Store at or below core temperature of –25^{o} C for up to 36 months.
Handle frozen packs with care, as plastic is brittle at storage temperature.

Thawing: Frozen plasma components should be thawed under controlled conditions which have been fully validated. This may vary from 33-37ºC depending on the thawing device.

It is recommended that one of the following methods is used:

- Water baths at 37ºC with an integral barrier between the water and the FFP unit.
- Dry ovens specifically designed for thawing frozen plasma components.
- Microwave ovens specifically designed for thawing frozen plasma components.
- Any other technology that has been fully validated for this purpose.

Standard water baths may be used but it is recommended that the vacuum-sealed overwrap is kept in position and not removed prior to thawing. The waterbath should be used solely for thawing plasma and the water changed daily with clean laboratory grade water.

After thawing the component pack should be examined carefully for leaks or damage, unusual colour, turbidity or clumping of the contents. Thawed plasma components must **not** be re-frozen.

Compatibility

FFP of the same ABO group should be used as far as possible. If ABO identical FFP is not available then FFP of another group can be given as directed in the table below.

Group AB is haemolysin free and may be used if the patient's group is unknown, but is in short supply and should only be used for non AB recipients if absolutely essential.

FFP selection for ABO group

Recipient's group	O	A	B	AB
1st choice	O	A	B	AB
2nd choice	A	AB	AB	*A **HT neg**
3rd choice	B	*B **HT neg**	*A **HT neg**	*B **HT neg**
4th choice	AB	-	-	-

* Only suitable for emergency use in adults if unit is tested and found to be negative for high titre ABO antibodies.

NB. these group selections are for standard FFP (for MB FFP see p37)

Group O FFP *MUST* only be given to O recipients.

Rh D group compatibility: FFP, Cryoprecipitate and Plasma, Cryo Depleted do NOT need to be matched for RhD group. RhD positive plasma components may be given to any RhD negative individual and no anti-D prophylaxis need be given in this situation[8]. The EU Blood Directive currently requires that the RhD group is stated on the label.

Special Requirements
There have been no case reports of FFP transfusion-associated graft versus host disease (TA-GvHD). FFP does NOT need to be irradiated.

FFP is not known to have transmitted CMV or HTLV

Fresh Frozen Plasma, Methylene Blue Treated (MBT) and Removed

Description

This is imported plasma that has been obtained from whole blood or apheresis from male or HLA antibody tested females and has been treated with methylene blue and exposed to visible light to inactivate pathogens. Following the removal of methylene blue, the plasma is rapidly frozen at a temperature that will maintain the activity of labile coagulation factors.

SaBTO has recommended that FFP given to neonates and children born on or after 1 January 1996 should be obtained from a country with low vCJD risk.

For MB FFP group selection see p37.

Fresh Frozen Plasma, IgA deficient

UK Plasma that has been screened for IgA deficiency and then prepared in the same way as ordinary FFP. This plasma is only available in two centres in the UK (Colindale and Sheffield) and adequate time must be given to transport it to the required location. It is used for patients who have IgA antibodies and have had severe transfusion reactions in the past.

Cryoprecipitate

Cryoprecipitate consists of the cryoglobulin fraction of plasma containing the major portion of Factor VIII and fibrinogen. It is obtained by thawing a single donation of FFP at 4°C ± 2°C resulting in the formation of the cryoprecipitate. Following centrifugation, the supernatant plasma is removed. The cryoprecipitate is then rapidly frozen to ≤-25°C. It is available as single units or as pools of 5.

Clinical Indications

Bleeding associated with hypofibrinogenaemia (<1g/litre) and congenital or acquired dysfibrinogenaemia.

Dose

A single unit contains a mean of approximately 400 - 460mg fibrinogen. The adult therapeutic dose is two pools of five, or one single unit per 5 - 10 kg body weight, dependent on the degree of fibrinogen deficiency.

Response should be monitored by repeat coagulation tests.

Administration
Once thawed, the component should be used immediately. If delay is unavoidable, the component should be stored at ambient temperature and used within four hours
Thawed plasma components must **not** be re-frozen.

The infusion must be completed as soon as possible and within 4 hrs of thawing.

Compatibility
Should be ABO compatible.

Cryo selection for ABO group

Recipient's group	O	A	B	AB
1st choice	O	A	B	**AB
2nd choice	A	*B	*A	*A
3rd choice	B	-	-	*B

*Only suitable for emergency use in adults if unit is tested and found to negative for high titre ABO antibodies.

** Small numbers of Group AB cryo may be available on request but this item is not routinely stocked.

NB. these group selections are for standard cryo (for MB cryo see P37)

Group O cryo *MUST* only be given to O recipients.

Specification sheets for

FROZEN PLASMA COMPONENTS

Component name	**Fresh Frozen Plasma, LD**

Red Book reference	8th Edition, Section 7.15

Parameter	NHSBT mean	NHSBT Specification	Note
Volume (mL)	268	200-340	
Haemoglobin (g/unit)	N/A	N/A	
Haematocrit (L/L)	N/A	N/A	
WBC count ($x10^6$/unit)	0.26	<1	
Granulocytes (x 10^9/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	N/A	N/A	
Factor VIIIc (IU/mL)	0.96	>=0.7	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	N/A	N/A	
pH at expiry	N/A	N/A	

Anticoagulant(s)	CPD or ACD
Suspension medium	N/A
Shelf Life	36 months. Once thawed use up to a maximum of 120 hours if stored at 4°C ± 2°C depending on the indication
Availability	Stock
Storage	< -25 °C
Transport	< -25 °C
CMV status	N/A
Red cell phenotype	N/A
Additional testing requirement	Limited HEV negative stock available
Donor Specification	Previous donation within last two years & from male donors only
Additional notes	Do not re-freeze

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
L551	a0	18281	3b	Pack 1
L552	a0	18282	3b	Pack 2
LF15	a0	18300	3b	(Single unit)
L553	a0	18320	3b	(Single unit)
L554	a0	18221	3b	Pack 1
L555	a0	18222	3b	Pack 2

Component name	**Cryoprecipitate, LD**

Red Book reference	8th Edition, Section 7.17

Parameter	NHSBT mean	NHSBT Specification	Note
Volume (mL)	49	20-60	
Haemoglobin (g/unit)	N/A	N/A	
Haematocrit (L/L)	N/A	N/A	
WBC count ($x10^6$/unit)	N/A	N/A	
Granulocytes (x 10^9/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	<30	
Platelet yield ($x10^9$/unit)	N/A	N/A	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	109	≥70	
Fibrinogen (mg/unit)	415	≥140	
Supernatant Hb	N/A	N/A	
pH at expiry	N/A	N/A	

Anticoagulant(s)	CPD
Suspension medium	N/A
Shelf Life	36 months. Once thawed use within 4hrs
Availability	stock
Storage	< -25 °C
Transport	< -25 °C
CMV status	N/A
Red cell phenotype	N/A
Additional testing requirement	Limited HEV negative stock available
Donor Specification	Previous donation within the last two years & from male donors only
Additional notes	Once thawed do not refrigerate Limited supplies of single cryo units are held Do not re-freeze

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
L531	a0	10170	3b	

Component name	**Cryoprecipitate, Pooled, LD**

Red Book reference	8th Edition, Section 7.18

Parameter	NHSBT mean	NHSBT Specification	Note
Volume (mL)	236	100-300	
Haemoglobin (g/unit)	N/A	N/A	
Haematocrit (L/L)	N/A	N/A	
WBC count ($x10^6$/unit)	N/A	<1	Primary process monitored
Granulocytes (x 10^9/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	<30	
Platelet yield ($x10^9$/unit)	N/A	N/A	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	499	>350	
Fibrinogen (mg/unit)	1596	>700	
Supernatant Hb	N/A	N/A	
pH at expiry	N/A	N/A	

Anticoagulant(s)	CPD
Suspension medium	N/A
Shelf Life	36 months. Once thawed use within 4hrs
Availability	Stock. Group AB available on a named patient basis only
Storage	< -25 °C
Transport	< -25 °C
CMV status	N/A
Red cell phenotype	N/A
Additional testing requirement	Limited HEV negative stock available
Donor Specification	Previous donation within the last two years & from male donors only
Additional notes	Pooled from 5 donations Once thawed do not refrigerate Do not re-freeze

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
L571	a0	10190	3b	

COMPONENTS FOR INTRAUTERINE, NEONATAL, PAEDIATRIC AND INFANT USE - GENERAL INFORMATION

General principles – Suitable for neonates and infants less than one year of age. The term 'neonate' applies to an infant up to 28 days of postnatal age.

With the exception of FFP and cryoprecipitate (which are imported and pathogen inactivated), components for transfusion *in utero* or to children under one year of age are prepared from blood donated by previously tested donors who have given at least one previous donation within the past two years, which was negative for all mandatory microbiological markers.[2]

NHSBT provides neonates with components of lower volume by dividing standard sized components into aliquots. This reduces wastage and provides the potential to limit donor exposure. Each aliquot is uniquely identified to help ensure traceability.

All components provided for foetal, neonatal and infant transfusion up to one year are CMV negative, HEV negative, K-negative (for red cells, unless maternal anti-k (cellano) is present, when k-negative must be provided), leucodepleted and may need to be irradiated. See relevant section below.

For further information on transfusion of foetal, neonatal and paediatric recipients see the BCSH guidelines[10].

Component Availability

Standard paediatric or neonatal components are routinely stocked in Hospital Services (HS) departments, but ABO Rh group availability will vary with demand in each area.

For IUT, 24 hours notice is preferred for planned procedures (for urgent requests 4 hours notice is required, 6 hours outside normal working hours). For neonatal exchange units, Orr or OR1R1 are a limited stock item (requiring some minimal processing and irradiation prior to issue), but extended phenotyped units require minimum 24 hours notice. As much notice as possible is appreciated to source units of other phenotypes, including allowing time for them to be transported from another centre if not available at the centre that normally serves the hospital. Where specified certain components should be used within a certain timeframe, e.g.'before the end of day 5' - the collection day being day 0.

Red cell components for IUT, neonatal exchange transfusion, and neonatal/infant large volume transfusion are made from blood donations that are processed on day 0 (i.e.not stored at ambient temperature up to 24 hours before processing as for other red cells).

Large volume transfusion (LVT) units are stocked according to demand, currently at Birmingham, Tooting, Colindale, Manchester, Sheffield, Liverpool and Newcastle.

Any questions or queries regarding orders, please contact your HS manager or department. For any other problems contact your Customer Services manager.

In emergency cases, please discuss your requirements with HS to inform them of the urgency of your requirement and obtain an estimated delivery time. HS can connect you to a NHSBT consultant for further advice if required.

Red Cells for Intrauterine transfusion (IUT)

This procedure is carried out in specialised centres only, and the requirements for blood components are agreed in close consultation between the Foetal Medicine Unit, Consultant Haematologist and Blood Centre.

Red cells for IUT are:

- From a male donor
- Group O or ABO identical with the foetus, and RhD negative in most cases; negative for the relevant antigen(s) determined by maternal antibody status and tested by indirect antiglobulin technique (IAT) cross-match compatible with maternal serum
- K negative except if the infant is suffering from HDN due to anti-k
- In CPD-anticoagulated plasma, with no SAG-M additive solution
- Used within five days of donation i.e. before the end of day 5
- Free from clinically significant red cell antibodies (tested by IAT) and HT negative
- CMV antibody negative
- HbS and HEV screen negative
- Irradiated (and must be used within 24 hours of irradiation)
- Leucocyte depleted

The haematocrit should be agreed with the Foetal Medicine Consultant, but 0.70 - 0.85 L/L is recommended.

Red Cells for Neonatal exchange transfusion

Red cells for exchange transfusion are

- From a male donor
- Group O (or ABO compatible with maternal and neonatal plasma), RhD negative (or RhD identical with neonate); negative for red cell antigens to which the mother has antibodies; IAT cross-match compatible with maternal plasma
- K negative except if the infant is suffering from HDN due to anti-k
- In CPD-anticoagulated plasma, with no SAG-M additive solution (NHSBT Hct 0.50 – 0.55)
- Used within five days of donation i.e. before the end of day 5
- Free from clinically significant red cell antibodies (tested by IAT) and HT negative
- CMV antibody negative
- HbS and HEV screen negative
- Irradiated on issue (and must be used within 24 hours of irradiation)
- Leucocyte depleted

Red Cells in Additive Solution for Neonates and Infants suitable for large volume transfusions other than exchange transfusions (commonly known as 'LVT's)

Large volume red cell transfusion (LVT) may be required by neonates and infants undergoing cardiac surgery, extracorporeal membrane oxygenation (ECMO), and some other surgery such as craniofacial surgery. 'Large volume transfusion' is typically equivalent to at least a single circulating blood volume (approx 80mL/kg for neonates) over 24 hours or 50% of the circulating volume within 3 hours[10].These components may also be used for small volume top-up transfusion for larger infants

Red cells for non-exchange large-volume transfusion should be

- Provided in all blood groups
- ABO and RhD compatible with the neonate
- K negative except if the infant is suffering from HDN due to anti-k
- In 105 mL SAG-M additive solution (containing only a small volume of plasma approx. 20ml)
- Hct approx. 0.5 – 0.7
- Used in accordance with BCSH guidelines[10] if the intended use is for large volume transfusion of neonates and infants (i.e. used before the end of day 5, collection date classed as being day 0)
- Free from clinically significant red cell antibodies (tested by IAT) and HT negative
- CMV antibody negative
- HbS and HEV screen negative

- If irradiated and intended use is for large volume transfusion of neonates and infants must be used within 24 hours of irradiation
- If used for small volume top-up transfusion for larger infants, may be used up to end of 35 day shelf-life (14 days post irradiation)

Neonatal top-up transfusions for foetal and neonatal infants

Red cells provided for neonatal top-up transfusions are of neonatal/infant specification, processed as for adult transfusion in SAGM (additive solution) after overnight hold, and may be used at any time up to their 35 day expiry for a top-up transfusion. They are provided in small volume aliquots each identified by a unique number.

Platelet transfusion

Platelets for foetal, neonatal and infant use are free from clinically significant irregular blood group antibodies including high titre anti-A and B, and are CMV and HEV negative. They should be ABO and RhD identical or compatible with recipient, They are prepared by splitting a full sized apheresis unit into smaller units. Each unit typically contains 60 – 70 x 10^9 platelets in 50 mL plasma.

The required blood group should be specified when ordering, allowing at least 6 hours processing and transit time. All Hospital Services departments routinely stock A rr for immediate use, and some stock other groups determined by demand pattern.

Neonates with neonatal alloimmune thrombocytopenia (NAIT), should have platelets negative for HPA–1a and –5b. These are available on request, from national stock.

All platelets that have a 7 day shelf life have been bacteriologically screened.

Platelet for intrauterine transfusion (IUT)

A hyperconcentrated apheresis platelet component is provided for intra-uterine transfusion of foetuses at risk of thrombocytopenic bleeding, usually due to maternal alloimmunisation to Human Platelet Antigens. Platelets are supplied from HPA-1a, -5b neg donors (or as indicated) as a hyperconcentrate to minimise volume load and maximise platelet content.

The request is by special order following discussion with the consultant in H&I, requiring several days notice, usually 7 days in advance, to enable the right donor to be contacted and bled.

Fresh Frozen Plasma (FFP), Methylene Blue Treated (MBT) and Removed for recipients born on or after 1.1.96

The UK DH has recommended that imported FFP is given to patients born on or after 1 January 1996. It is imported from a country with a lower risk of vCJD than the UK and subjected to pathogen reduction procedures i.e. treated with Methylene Blue. The plasma has been obtained from whole blood or apheresis plasma from volunteer male donors. Imported FFP is not HT tested. Group compatible plasma should be used wherever possible (see table below and BCSH guidelines[10]).

MB FFP is exposed to visible light to inactivate any pathogens. Following removal of more than 90% of the methylene blue the plasma is rapidly frozen at a temperature that will maintain the activity of labile coagulation factors

Once thawed the unit should be infused within 4 hours if stored at ambient temperature. If thawed and not required immediately units of MB FFP may be stored at 4℃ ± 2℃ up to a maximum of 24 hours
***NB** this is different from standard FFP*

MB FFP is provided in two sizes: small volume 'neonatal' aliquots (50mL), split prior to freezing, and larger volume (approx. 200 mL) for treatment of larger patients.

Low titre anti-T FFP

Plasma is UK sourced, centrally held and issued by special request. A limited supply is available for transfusion of neonates and infants with haemolysis following blood component transfusion, in whom classical T activation has been demonstrated (for further information see http://hospital.blood.co.uk/media/2178/f62ef923-2fa0-4bea-82c1-c43989b7e111.pdf.
Requests for this component should be discussed with a NHSBT consultant before ordering.

Cryoprecipitate, Methylene Blue (MB) Treated and Removed, Leucocyte Depleted for recipients born on or after 1.1.96

The cryoglobulin fraction manufactured from imported plasma which has undergone Methylene Blue treatment and removal. Cryoprecipitate contains the major portion of FVIII and fibrinogen. Available as single (approx 40 mL) or pooled units. The pools are made up of six single donor units (total approx. 200-300 mL, actual volume is recorded on the pack). One or two pools may be used for larger patients as appropriate for their weight.

MB FFP and MB Cryoprecipitate selection for ABO group

Recipient's group	O	A	B	AB
1st choice	O	A	B	AB
2nd choice	A	AB	AB	A*
3rd choice	B	**B***	**A***	**B***

N.B. Group AB has limited availability.

1. No requirement to select for Rh D type.
2. Group O should only be given to group O recipients
3. MB FFP and MB cryoprecipitate are not tested for HT antibodies.
4. AB plasma, although haemolysin free and suitable for patients of any ABO group, should be conserved for group AB patients or emergency transfusions where the patient's group is unknown.

*Group compatible plasma should be used wherever possible. Non-compatible groups should only be used in emergencies when compatible groups are not available[10].

Specification sheets for

FETAL/NEONATAL/PAEDIATRIC BLOOD COMPONENTS

Component name	**Red Cells for Intrauterine Transfusion (IUT), LD**

Red Book reference	8th Edition, Section 7.21, 7.22 & 7.31

Parameter	NHSBT mean	NHSBT Specification	Note
Volume (mL)	238	150-320	
Haemoglobin (g/unit)	58	>40	
Haematocrit (L/L)	0.77	0.70 - 0.85	
WBC count ($x10^6$/unit)	0.32	< 1	
Granulocytes ($x\ 10^9$/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	N/A	N/A	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	N/A	<0.8%	Of red cell mass
pH at expiry	N/A	N/A	

Anticoagulant(s)	CPD
Suspension medium	N/A
Shelf Life	24 hours from time of irradiation and within 5 days of donation.
Availability	24 hours notice preferred for planned procedures, shorter time for urgent requests. Please see Appendix 7, "Availability of Non Stock and Special Components", for further information including availability for urgent requests.
Storage	4℃ ± 2℃.
Transport	The component surface temperature must be maintained between 2℃ and 10℃ during transportation.
CMV status	Negative
Red cell phenotype	K antigen negative. Other antigen profiles by request including k (cellano) negative.
Additional testing requirement	The component should be free from clinically significant irregular blood group antibodies including high titre anti-A and anti-B. An additional indirect antiglobulin test is used to screen for clinically significant antibodies in the provision of paediatric units (PANTS negative). CMV, HEV and HbS negative.
Donor Specification	Previous donation within the last two years. Ideally male donor
Additional notes	**Blood for IUT must be irradiated**

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
GY35	a0	40018	3b	(CPD)

Component name	**Red Cells, in Additive Solution, LD, For Neonatal Use**

Red Book reference	8th Edition, Section 7.26

Parameter	NHSBT mean	NHSBT Specification	Note
Volume (mL)	45	36-66	
Haemoglobin (g/unit)	8.6	>7	
Haematocrit (L/L)	0.56	0.5-0.7	
WBC count ($x10^6$/unit)	< 0.1	<1	
Granulocytes (x 10^9/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	N/A	N/A	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	N/A	<0.8%	Of red cell mass
pH at expiry	N/A	N/A	

Anticoagulant(s)	CPD
Suspension medium	SAG-M
Shelf Life	35 days
Availability	Group O neg stock item. Please see Appendix 7, "Availability of Non Stock and Special Components", for further information including availability for urgent requests.
Storage	4℃±2℃.
Transport	The component surface temperature must be maintained between 2℃ and 10℃ during transportation.
CMV status	Negative
Red cell phenotype	K antigen negative Other antigen profiles by request including k (cellano) negative
Additional testing requirement	The component should be free from clinically significant irregular blood group antibodies including high titre anti-A and anti-B. An additional indirect antiglobulin test is used to screen for clinically significant antibodies in the provision of paediatric units (PANTS negative). CMV, HEV and HbS negative.
Donor Specification	Previous donation within the last two years
Additional notes	Contact Hospital Services to obtain the exact volume of the split units to help with ordering the required amount for transfusion.

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
0B21	a0	56830	3b	Pack 1
0B22	a0	56831	3b	Pack 2
0B23	a0	56832	3b	Pack 3
0B24	a0	56833	3b	Pack 4
0B25	a0	56834	3b	Pack 5
0B26	a0	56835	3b	Pack 6

Component name	**Red Cells in Additive Solution, LD, Irradiated, For Neonatal Use**

Red Book reference	8th Edition, Section 7.26 & 7.31

Parameter	NHSBT mean	NHSBT Specification	Note
Volume (mL)	45	36-66	
Haemoglobin (g/unit)	8.6	>7	
Haematocrit (L/L)	0.56	0.5-0.7	
WBC count ($x10^6$/unit)	< 0.1	<1	
Granulocytes (x 10^9/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	N/A	N/A	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	N/A	<0.8%	Of red cell mass
pH at expiry	N/A	N/A	

Anticoagulant(s)	CPD
Suspension medium	SAG-M
Shelf Life	14 days from time of irradiation
Availability	Group O neg stock item. Please see Appendix 7, "Availability of Non Stock and Special Components", for further information including availability for urgent requests.
Storage	4℃±2℃.
Transport	The component surface temperature must be maintained between 2℃ and 10℃ during transportation.
CMV status	Negative
Red cell phenotype	K antigen negative Other antigen profiles by request including k (cellano) negative
Additional testing requirement	The component should be free from clinically significant irregular blood group antibodies including high titre anti-A and anti-B. An additional indirect antiglobulin test is used to screen for clinically significant antibodies in the provision of paediatric units (PANTS negative). CMV, HEV and HbS negative.
Donor Specification	Previous donation within the last two years.
Additional notes	Contact Hospital Services to obtain the exact volume of the split units to help with ordering the required amount for transfusion.

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
GB21	a0	46830	3b	Pack 1
GB22	a0	46831	3b	Pack 2
GB23	a0	46832	3b	Pack 3
GB24	a0	46833	3b	Pack 4
GB25	a0	46834	3b	Pack 5
GB26	a0	46835	3b	Pack 6

Component name	**Red Cells (CPD), LD, Irradiated For Neonatal Exchange Transfusion**

Red Book reference	8th Edition, Section 7.24 & 7.31

Parameter	NHSBT mean	NHSBT Specification	Note
Volume (mL)	353	220-395	
Haemoglobin (g/unit)	61	>40	
Haematocrit (L/L)	0.53	0.50 – 0.55	
WBC count ($x10^6$/unit)	0.31	< 1	
Granulocytes ($x\ 10^9$/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	N/A	N/A	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	N/A	<0.8%	Of red cell mass
pH at expiry	N/A	N/A	

Anticoagulant(s)	CPD
Suspension medium	N/A
Shelf Life	24 hours from time of irradiation and before the end of day 5.
Availability	Limited stock item (group O negative and O R1R1). Up to 24 hours notice preferred for other phenotypes. Please see Appendix 7, "Availability of Non Stock and Special Components", for further information including availability for urgent requests.
Storage	4℃±2℃.
Transport	The component surface temperature must be maintained between 2℃ and 10℃ during transportation.
CMV status	Negative
Red cell phenotype	K antigen negative Other antigen profiles by request including k (cellano) negative.
Additional testing requirement	The component should be free from clinically significant irregular blood group antibodies including high titre anti-A and anti-B. An additional indirect antiglobulin test is used to screen for clinically significant antibodies in the provision of paediatric units (PANTS negative). CMV, HEV and HbS negative.
Donor Specification	Previous donation within the last two years. Male donor
Additional notes	

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
GX22	a0	40350	3b	(CPD)

Component name	**Red Cells in Additive Solution, LD, for Neonates and Infants**

Red Book reference	8th Edition, Section 7.26

Parameter	NHSBT mean	NHSBT/UK Specification	Note
Volume (mL)	294	280 +/- 60	
Haemoglobin (g/unit)	56	>40 g/unit	
Haematocrit (L/L)	N/A	0.5-0.6	
WBC count ($x10^6$/unit)	<0.3	< 1	
Granulocytes ($x\ 10^9$/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	N/A	N/A	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	N/A	<0.8%	Of red cell mass
pH at expiry	N/A	N/A	

Anticoagulant(s)	CPD
Suspension medium	SAG-M
Shelf Life	35 days. Users are referred to BCSH guidelines on transfusion for foetuses, neonates and older children (2016)[10] if the intended use is for large volume transfusion to neonates and infants: for this situation use before the end of day 5.
Availability	Stock at certain sites. Please see Appendix 7, "Availability of Non Stock and Special Components", for further information including availability for urgent requests.
Storage	4℃±2℃.
Transport	The component surface temperature must be maintained between 2℃ and 10℃ during transportation.
CMV status	Negative
Red cell phenotype	K antigen negative. Other phenotypes may require 24 hours notice.
Additional testing requirement	The component should be free from clinically significant irregular blood group antibodies including high titre anti-A and anti-B. An additional indirect antiglobulin test is used to screen for clinically significant alloantibodies in the provision of paediatric units (PANTS negative). CMV, HEV and HbS negative
Donor Specification	Previous donation within the last 2 years. Male donor
Additional notes	Commonly known as LVTs (Large Volume Transfusion) units.

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
0X25	a0	54481	3b	

Component name	**Red Cells in Additive Solution, LD, for Neonates and Infants, Irradiated.**

Red Book reference	8th Edition, Section 7.26 & 7.31

Parameter	NHSBT mean	NHSBT Specification	Note
Volume (mL)	294	280 +/- 60	
Haemoglobin (g/unit)	56	>40g/unit	
Haematocrit (L/L)	N/A	0.5-0.6	
WBC count ($x10^6$/unit)	<0.3	< 1	
Granulocytes (x 10^9/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	N/A	N/A	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	N/A	<0.8%	Of red cell mass
pH at expiry	N/A	N/A	

Anticoagulant(s)	CPD
Suspension medium	SAG-M
Shelf Life	14 days. Users are referred to BCSH guidelines on transfusion for foetuses, neonates and older children (2016)[10] if the intended use is for large volume transfusion to neonates and infants: for this situation use before the end of day 5 and within 24 hours from time of irradiation.
Availability	Stock at certain sites. Please see Appendix 7, "Availability of Non Stock and Special Components", for further information including availability for urgent requests.
Storage	4℃±2℃.
Transport	The component surface temperature must be maintained between 2℃ and 10℃ during transportation.
CMV status	Negative
Red cell phenotype	K antigen negative. Other phenotypes may require 24 hours notice
Additional testing requirement	The component should be free from clinically significant irregular blood group antibodies including high titre anti-A and anti-B. An additional indirect antiglobulin test is used to screen for clinically significant alloantibodies in the provision of paediatric units (PANTS negative). CMV, HEV and HbS negative.
Donor Specification	Previous donation within the last two years. Male donor
Additional notes	Commonly known as LVTs (Large Volume Transfusion) units.

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
GX25	a0	54482	3b	

Component name	**Fresh Frozen Plasma (FFP), Methylene Blue Treated (MBT) and Removed for recipients born on or after 1.1.96 (Large Volume)**

Red Book reference	8th Edition, Section 7.27

Parameter	NHSBT mean	NHSBT Specification	Note
Volume (mL)	230	200-320	
Haemoglobin (g/unit)	N/A	N/A	
Haematocrit (L/L)	N/A	N/A	
WBC count ($x10^6$/unit)	N/A	N/A	
Granulocytes (x 10^9/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	N/A	N/A	
Factor VIIIc (IU/mL)	0.69	>0.50	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	N/A	N/A	
pH at expiry	N/A	N/A	

Anticoagulant(s)	various
Suspension medium	N/A
Shelf Life	36 months
Availability	Stock
Storage	< -25 °C
Transport	< -25 °C
CMV status	N/A
Red cell phenotype	N/A
Additional testing requirement	**This product is not High Titre tested**
Donor Specification	Male or HLA screened female donor (not previously transfused).
Additional notes	For transfusion to patients born on or after 1st January 1996. Group O must be given to Group O recipients only HEV negative.

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
LF71	a0	54272	3b	Pack 1
LF72	a0	54273	3b	Pack 2
LF73	a0	54274	3b	Pack 3
LF74	a0	54271	3b	(single unit)

Component name	**Fresh Frozen Plasma (FFP), Methylene Blue Treated (MBT) and Removed for recipients born on or after 1.1.96 (Small Volume)**

Red Book reference	8th Edition, Section 7.27

Parameter	NHSBT mean	NHSBT Specification	Note
Volume (mL)	57	Locally defined	
Haemoglobin (g/unit)	N/A	N/A	
Haematocrit (L/L)	N/A	N/A	
WBC count ($x10^6$/unit)	N/A	N/A	
Granulocytes ($x\ 10^9$/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	N/A	N/A	
Factor VIIIc (IU/mL)	0.69	>0.50	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	N/A	N/A	
pH at expiry	N/A	N/A	

Anticoagulant(s)	Various
Suspension medium	N/A
Shelf Life	36 months
Availability	Stock
Storage	< -25 °C.
Transport	< -25 °C
CMV status	N/A
Red cell phenotype	N/A
Additional testing required.	**This product is not High Titre tested.**
Donor Specification	Male or HLA screened female donor (not previously transfused).
Additional notes	For transfusion to patients born on or after 1st January 1996. HEV negative. Group O must be given to Group O recipients only.

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
LF81	a0	54275	3b	Pack 1
LF82	a0	54276	3b	Pack 2
LF83	a0	54277	3b	Pack 3
LF84	a0	54278	3b	Pack 4
LF85	a0	54279	3b	Pack 5
LF86	a0	54280	3b	Pack 6
LF87	a0	54281	3b	Pack 7
LF88	a0	54282	3b	Pack 8
LF89	a0	54283	3b	Pack 9
LF91	a0	54284	3b	Pack 10
LF92	a0	54285	3b	Pack 11
LF93	a0	54286	3b	Pack 12

Component name	**Cryoprecipitate, Methylene Blue Treated (MBT) and Removed, LD**

Red Book reference	8th Edition Section 7.28

Parameter	NHSBT mean	NHSBT/UK Specification	Note
Volume (mL)	49	20-60	
Haemoglobin (g/unit)	N/A	N/A	
Haematocrit (L/L)	N/A	N/A	
WBC count ($x10^6$/unit)	N/A	N/A	
Granulocytes (x 10^9/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	N/A	N/A	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	69	≥50	
Fibrinogen (mg/unit)	255	≥140	
Supernatant Hb (g/unit)	N/A	N/A	
pH at expiry	N/A	N/A	

Anticoagulant(s)	various
Suspension medium	N/A
Shelf Life	36 months
Availability	Stock. Group AB has limited availability
Storage	< -25 °C
Transport	< -25 °C
CMV status	N/A
Red cell phenotype	N/A
Additional testing requirement	**This product is not High Titre tested**
Donor Specification	Male or HLA screened female donor (not previously transfused).
Additional notes	For transfusion to patients born on or after 1st January 1996. HEV negative Group O must be given to Group O recipients only. Must not be placed in the fridge

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
LF31	a0	54260	3b	From single pack
LF33	a0	54487	3b	From pack 1
LF34	a0	54488	3b	From pack 2
LF35	a0	54489	3b	From pack 3

Component name	**Cryoprecipitate, Pooled, Methylene Blue Treated (MBT) and Removed, LD**

Red Book reference	8th Edition section 7.33

Parameter	NHSBT mean	NHSBT/UK Specification	Note
Volume (mL)	282	100-300ml	
Haemoglobin (g/unit)	N/A	N/A	
Haematocrit (L/L)	N/A	N/A	
WBC count ($x10^6$/unit)	N/A	<1	
Granulocytes (x 10^9/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A		
Platelet yield ($x10^9$/unit)	N/A	N/A	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	364	≥250	
Fibrinogen (mg/unit)	1240	≥700	
Supernatant Hb (g/unit)	N/A	N/A	
pH at expiry	N/A	N/A	

Anticoagulant(s)	various
Suspension medium	N/A
Shelf Life	36 months
Availability	Stock. Group AB has limited availability
Storage	<-25°C
Transport	<-25°C
CMV status	N/A
Red cell phenotype	N/A
Additional testing requirement	**This product is not High Titre anti-A nor anti-B tested**
Donor Specification	Male or HLA screened female donor (not previously transfused).
Additional notes	For transfusion to patients born on or after 1st January 1996. Group O must be given to Group O recipients only HEV negative Pools consist of 6 single Cryo donations. Must not be placed in the fridge

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
LF54	a0	54483	3b	

Component name	**Platelets for Intrauterine Transfusion (IUT) - hyperconcentrated**

Red Book reference	8th Edition, Section 7.29 & 7.31

Parameter	NHSBT mean	NHSBT Specification	Note
Volume (mL)	73	50-100	
Haemoglobin (g/unit)	N/A	N/A	
Haematocrit (L/L)	N/A	N/A	
WBC count ($x10^6$/unit)	0.12	<1	
Granulocytes ($x 10^9$/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	2632	2000 –4000	
Platelet yield ($x10^9$/unit)	N/A	N/A	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	N/A	N/A	
pH at expiry	N/A	6.4 to 7.4	

Anticoagulant(s)	ACD
Suspension medium	N/A
Shelf Life	24 hours from time of preparation
Availability	By special order only following discussion with NHSBT Consultant. Up to 7days notice required. Please see Appendix 7, "Availability of Non Stock and Special Components", for further information including availability for urgent requests.
Storage	22°C ± 2°C with agitation
Transport	22°C ± 2°C
CMV status	Negative
Red cell phenotype	N/A
Additional testing requirement	The component should be free from clinically significant irregular blood group antibodies including high titre anti-A and anti-B.
Donor Specification	Previous donation within the last two years.
Additional notes	These will be from donors who are HPA 1a, 5b negative. This component is irradiated. HEV negative

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
GN81	a0	42964	3b	

Component name	**Platelets, Apheresis, LD For Neonatal Use.**

Red Book reference	8th Edition, Section 7.30

Parameter	NHSBT mean	NHSBT/UK Specification	Note
Volume (mL)	44	30-120	
Haemoglobin (g/unit)	N/A	N/A	
Haematocrit (L/L)	N/A	N/A	
WBC count ($x10^6$/unit)	N/A	< 1	
Granulocytes (x 10^9/unit)	N/A	N/A	
Platelet conc ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	63.4	>40	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb (g/unit)	N/A	N/A	
pH at expiry	N/A	6.4 to 7.4	

Anticoagulant(s)	ACD
Suspension medium	N/A
Shelf Life	7 days
Availability	Arr (or Orr) HT neg available as stock. Other groups are available, please see appendix 7 'Availability of Non-Stock and Special Components'.
Storage	22°C ± 2°C with agitation
Transport	22°C ± 2°C
CMV status	Negative
Red cell phenotype	N/A
Additional testing requirement	The component should be free from clinically significant irregular blood group antibodies including high titre anti-A and anti-B. Bacteriologically screened.
Donor Specification	Previous donation within the last two years. Ideally male donor
Additional notes	Limited HEV negative stock available

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
0E11	a0	54397	3b	Pack 1
0E12	a0	54398	3b	Pack 2
0E13	a0	54399	3b	Pack 3
0E14	a0	54400	3b	Pack 4
0E15	a0	54401	3b	Pack 5
0E16	a0	54402	3b	Pack 6
0E17	a0	54403	3b	Pack 7
0E18	a0	54404	3b	Pack 8
0E19	a0	54405	3b	Pack 9
0E21	a0	54406	3b	Pack 10
0E22	a0	54407	3b	Pack 11
0E23	a0	54408	3b	Pack 12

Component name	**Platelets, Apheresis, LD Irradiated For Neonatal Use.**

Red Book reference	8th Edition, Section 7.30 & 7.31

Parameter	NHSBT mean	NHSBT/UK Specification	Note
Volume (mL)	44	30-120	
Haemoglobin (g/unit)	N/A	N/A	
Haematocrit (L/L)	N/A	N/A	
WBC count ($x10^6$/unit)	N/A	< 1	
Granulocytes (x 10^9/unit)	N/A	N/A	
Platelet conc ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	63.4	>40	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb (g/unit)	N/A	N/A	
pH at expiry	N/A	6.4 to 7.4	

Anticoagulant(s)	ACD
Suspension medium	N/A
Shelf Life	7 days
Availability	Arr (or Orr) HT neg available as stock. Other groups are available, please see appendix 7 'Availability of Non-Stock and Special Components'.
Storage	22°C ± 2°C with agitation
Transport	22°C ± 2°C
CMV status	Negative
Red cell phenotype	N/A
Additional testing requirement	The component should be free from clinically significant irregular blood group antibodies including high titre anti-A and anti-B. Bacteriologically screened.
Donor Specification	Previous donation within the last two years. Ideally male donor
Additional notes	Limited HEV negative stock available

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
GE11	a0	54409	3b	Pack 1
GE12	a0	54410	3b	Pack 2
GE13	a0	54411	3b	Pack 3
GE14	a0	54412	3b	Pack 4
GE15	a0	54413	3b	Pack 5
GE16	a0	54414	3b	Pack 6
GE17	a0	54415	3b	Pack 7
GE18	a0	54416	3b	Pack 8
GE19	a0	54417	3b	Pack 9
GE21	a0	54418	3b	Pack 10
GE22	a0	54419	3b	Pack 11
GE23	a0	54420	3b	Pack 12

GRANULOCYTE COMPONENTS – GENERAL INFORMATION

Granulocyte transfusions can be used as supportive therapy in patients with (or who are at high risk of developing) life-threatening bacterial or fungal infection secondary to neutropenia caused by bone marrow failure or neutrophil dysfunction. Their use is not without the risk of significant adverse effects. Careful assessment of the relative risks versus benefits should therefore be undertaken before prescribing these components. **Requests must be discussed with a NHSBT consultant.**

Granulocytes are supplied by NHSBT:

- Pooled Granulocytes, manufactured from pools of 10 single packs of buffy coats, resuspended in SSP+ (platelet additive solution) and male plasma.
- Apheresis granulocytes, not routinely supplied by NHSBT, only by directed donation programmes outside of the organisation.

Pooled Granulocytes are derived from the buffy coat layer of whole blood donations. They are manufactured by pooling 10 packs of 'Leucocytes, Buffy Coat' removing red cells and plasma, resuspending in SSP+ (platelet additive solution) and the plasma from one of the male donors. These have the advantage of having a smaller volume and less red cell contamination than buffy coats and being similar to an apheresis granulocyte collection.

A standard adult dose is two pools (derived from 20 donations), providing a dose of around 2×10^{10} which is considered to be an effective daily dose.
Children should receive 10-20mL/kg (usually 1 pool).
This dose is achievable using apheresis so long as the donor is stimulated with GCSF and /or steroids – however, the use of these drugs is not currently permitted for volunteer donors in the UK.

Storage and handling

Granulocytes carry a 24-hour shelf life, and are irradiated prior to issue. Storage is at 22 ± 2 ºC without agitation.

Compatibility, special requirements & Pooled Granulocyte selection

Granulocytes should undergo the same compatibility testing as red cells. They should be ABO, RhD and crossmatch compatible with any red cell antibodies detected in the recipient.

CMV negative recipients should receive only CMV negative granulocytes

Granulocyte selection for ABO group

Recipient's group	O	A	B	AB
1st choice	O	A	*B	*AB
2nd choice	-	O HT neg	O HT neg	A HT neg

N.B. *Group AB or B pooled granulocytes are not available.
If granulocytes are not ABO group specific (e.g. group O for a group B recipient) they should be high titre (HT) negative. This may present availability issues requiring clinical input.

Rh D positive granulocyte pools should not be given to Rh negative females of childbearing age or with anti-D blood group antibodies unless advised to do so in a life threatening emergency on the advice of a NHSBT consultant.

Pooled granulocytes have an average haematocrit of 15% and should be ordered to be ABO and RhD compatible. They cannot be ordered as negative for other red cell antigens as the red cell content is low enough for other antigens not to cause significant issues. Attempts to match more extensively for red cell antigens are likely to result in a failure to provide a therapeutic dose. Crossmatching difficulties may be encountered in patients who are not eligible for electronic issue as a result of acquired red cell antibodies, autoantibodies and assay dependent non-specific reactivity. The serological crossmatch is performed to detect ABO incompatibility if the patient is not eligible for electronic issue, a positive result does not necessarily preclude transfusion if the donation is ABO compatible with the recipient and the benefit outweighs the risk.

Supplies of 5-7 daily transfusions per week are given and the patient's clinical response is kept under review. Each pool contains approximately 2.5 adult doses of platelets thus reducing platelet transfusion requirements.

Pooled Granulocytes can only be supplied Tuesday to Saturday during normal working weeks.
They are not routinely available on Sundays, Mondays or the day after a bank holiday. In the event of any supply issues or urgent emergency requirements, after approval, NHSBT may need to provide single buffy coats as a contingency.

Further information is available in 'Clinical guidelines for the use of granulocyte transfusions' and in the JPAC position statement/change notification[11].

Component name	**Granulocytes, Pooled, Buffy Coat derived, in Platelet Additive Solution and Plasma, Irradiated**

Red Book reference	8th Edition Section 7.14 & 7.31

Parameter	NHSBT mean	NHSBT/UK Specification	Note
Volume (mL)	207 (± 12)	175-250	
Haemoglobin (g/unit)	15	N/A	
Red Cells(10^{12}/U)	0.57	N/A	
Haematocrit (L/L)	0.15	N/A	
WBC count (x10^6/unit)	NA	NA	
Granulocytes (x 10^9/unit)	9	>5	
Platelet concentration (x10^9/L)	1375		See below
Platelet yield (x10^9/unit)	499 (± 112)		Platelet transfusion requirements will be significantly reduced in the recipients of pooled buffy coats (Approximately 2.5 adult transfusion doses of platelets per pack)
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb (g/unit)	N/A	N/A	
pH at expiry	7.06	NA	pH at expiry not routinely measured.

Anticoagulant(s)	Citrate from whole blood donation
Suspension medium	Platelet additive solution (200ml SSP+ added during manufacture) and male donor plasma (70ml added at resuspension)
Shelf Life	Until midnight on the day after donation
Availability	Limited availability at least 24hrs notice required by special request with NHSBT Consultant authorisation. . Please see "Availability of Non Stock and Special Components" appendix 7, for emergencies or further information.
Storage	**22 ± 2º C . Do not agitate** (must not be put in a fridge)
Transport	22 ± 2º C
CMV status	CMV negative on request
Red cell phenotype	**On request but limited**
Additional testing requirement	Must be irradiated prior to transfusion. HEV negative
Donor Specification	70ml of plasma from Male donor
Additional notes	**Like red cells, this component should be ABO compatible with the recipient**. If not group specific (e.g. O for a B recipient), they should be high titre anti-AB negative (HT negative). **Red cell transfusion requirements may be modestly reduced in the recipients of pooled buffy coats**.

NHSBT PulseCode	Start Code	Barcode No.	Stop Code	Additional
G355	A0	54395	3b	

References

(1) The Blood Safety and Quality Regulations (BSQR). 2005 No. 50. 2005 and as amended.

(2) Guidelines for the Blood Transfusion Services in the United Kingdom (Red Book). 8th ed. TSO (The Stationery Office) Norwich, 2013.

(3) Guidelines on irradiation of blood components for the prevention of transfusion-associated graft-versus-host disease. BCSH Blood Transfusion Task Force. Addendum. Nov 2012

(4) Guidelines for the administration of blood components. BCSH Blood Transfusion 2009. Addendum to 2012

(5) Guidelines for Compatibility procedures in Blood Transfusion Laboratories Transfusion Medicine 2004; 14 (1):59-73.

(6) Handbook of Transfusion Medicine. 5th ed. 2013

(7) Guidelines for the use of platelet transfusions. Br J Haematol 2003; 122(1):10-23.

(8) BCSH Guidelines for the use of Prophylactic Anti-D Immunoglobulin for the prevention of Haemolytic Disease of the Foetus and Newborn. Amendment 4.8.2014.

(9) Guidelines for the use of fresh-frozen plasma, cryoprecipitate and cryosupernatant. Br J Haematol 2004.

(10) Guidelines on Transfusion of Fetuses, Neonates and older children. Helen V New, Jennifer Berryman, Paula HB Bolton-Maggs, Carol Cantwell, Elizabeth A Chalmers, Tony Davies, Ruth Gottstein, Andrea Kelleher, Sailesh Kumar, Sarah L Morley, Simon J Stanworth on behalf of the British Committee for Standards in Haematology. Br J Haematol 2016

(11) Clinical Guidelines for the use of Granulocyte Transfusions. M Elebute(Convenor), E Massey, S Benjamin, S Stanworh, C Navarette and G Lucas. 2012

Useful Websites

Guidelines for the Blood Transfusion Services :
http://www.transfusionguidelines.org.uk/index.asp?Publication=RB

Handbook of Transfusion Medicine: http://www.transfusionguidelines.org/transfusion-handbook

British Committee for Standards in Haematology http://www.b-s-h.org.uk/

British Blood Transfusion Society: www.bbts.org.uk

NHSBT Hospitals Website: http://hospital.blood.co.uk/index.asp

Serious Hazards of Transfusion (SHOT): www.shotuk.org

Medicines and Healthcare Regulatory Agency (MHRA): www.mhra.gov.uk

Quality information books: www.book.coe.int

NHSBT Components Clinical Team

The following consultants work within the Components Clinical Team and are happy to answer general queries about NHSBT components and their use.
For immediate patient needs, contact your local Blood Centre.

	Based at	**Products specialisation**	**Other responsibilities**
Laura Green Laura.green@nhsbt.nhs.uk	Barts & London	Plasma & Platelet Transfusion	Haemostasis & Massive Transfusion
Sheila MacLennan sheila.maclennan@nhsbt.nhs.uk	NHSBT Leeds	Blood Components	
Sarah Morley Sarah.morley@nhsbt.nhs.uk	Addenbrookes Cambridge	Paediatric Transfusion	Paediatric Intensive Care
Helen New Helen.New@nhsbt.nhs.uk	NHSBT Colindale	Paediatric and neonatal transfusion	Paediatric haematology
Heidi Doughty heidi.doughty@nhsbt.nhs.uk	NHSBT Birmingham	Military Transfusion Support	Whole Blood
Fiona Regan Fiona.regan@nhsbt.nhs.uk	NHSBT Colindale	Blood Components	

Appendix 1

Anticoagulants and additive solutions

CPD pH 5.3 to 5.9 consists of : - Trisodium Citrate (Dihydrate) 26.3 g/L Citric Acid (Monohydrate) 3.27 g/L Sodium Dihydrogen Phosphate (Dihydrate) 2.51g/L Dextrose / Glucose (Monohydrate) 25.5 g/L Water for Injection 1000 mL.	**CPD A1** pH 5.3 to 5.9 consists of :- Citric acid.H_2O 3.11- 3.43g/L Sodium Citrate.$2H_2O$ 24.9 - 27.6 g/L Sodium dihydrogen ortho phosphate 2.38 – 2.63 g/L Dextrose. H_2O 30.3 – 33.5 g/L Adenine 331 – 366 mg/L
ACD pH 4.7 to 5.3 consists of : - Sodium Citrate 22.00 g/L Glucose Monohydrate 24.5 g/L Citric Acid (Monohydrate) 8.00 g/L Water for Injection 1000mL	**SAG-M** pH 4.8 to 5.4 consists of : - Sodium Chloride 8.77 g/L Dextrose / Glucose Monohydrate 9.00 g/L Adenine 0.169 g/L Mannitol 5.25 g/L Water for Injection 1000mL.
Platelet Additive Solution (1) SSP pH 7.2 consists of : - Sodium Chloride 6.75g/L Sodium Acetate.$3H_2O$ 4.08g/L Sodium Citrate.$2H_2O$ 2.94g/L Water for Injection 1000 mL.	**Additive Solution (2) SSP+ for Pooled Granulocytes and Platelets in Additive Solution and Plasma** pH 7.2 consists of : - Sodium Chloride 69.3 mmol/L Sodium Acetate Trihydrate 10.8 mmol/L Sodium Acetate 32.5 mmol/L Sodium Phosphate 28.2 mmol/L Potassium Chloride 5 mmol/L Magnesium Chloride/sulphate 1.5 mmol/L

Appendix 2
Material Safety Data Sheet for Blood Components

1. Identification of the substance/preparation and company

Blood components may include whole blood, red cells, platelets and plasma.

NHSBT Oak House, Reeds Crescent, Watford, Hertfordshire WD24 4QN
Telephone: 0192 336 6800
Emergency Contact Number: 0192 336 6800

2. Composition/information on ingredients

All packs in current use are free from latex. All or part of this medical device is made of PVC plasticized with DEHP. According to some studies, DEHP could potentially be harmful to the reproductive system of male foetuses. The prescriber is solely responsible for choosing to use this device on women who are either pregnant or breast feeding, or on young male infants. Nevertheless, DEHP plasticised PVC is in compliance with the European Pharmacopeia.

Packs used for routine whole blood collections contain CPD anticoagulant, with SAG-M additive solution in the required elements of the collection system. All packs are required to comply with the requirements of EN ISO 3826 parts 1, 2 & 3, along with normative references that are defined in the Eurobloodpack Specification Document "Technical specification for standardised whole blood collection systems"

Please see component sheets for specific detail.

3. Hazards identification

Not sterilised; capable of transmitting any biological agent that has not been detected by routine screening.

4. First-aid measures

Eye contamination: Immediate and prolonged irrigation with copious amounts of water. Seek medical advice.
Skin contamination: Wash thoroughly with copious amounts of soap and water. If skin is broken seek medical advice.
Ingestion: Wash mouth with copious amounts of water and seek medical advice
Inhalation: N/A
Injection: remove sharp object if possible and wash with clean running water. Encourage bleeding. Seek medical advice immediately.

5. Fire-fighting measures

Product non-combustible, blood bag may burn. If involved in fire use extinguishing media appropriate to the surrounding conditions.

6. Accidental release measures

Major:
Wear appropriate disposal protective gloves, spray/cover spillage with appropriate germicidal powder and absorb, leave for 30 minutes, sweep debris into suitable container e.g. plastic bag, or box using disposable cloth or paper towels or a strong piece of card. Do not use dust pans or brushes unless

these can be sterilised appropriately. Place all debris and materials in appropriate clinical waste container for disposal. Swab area with appropriate veridical detergent.

Minor:
Mop up with absorbent material e.g. paper towel. Rinse area thoroughly with cold water. Swab area with appropriate veridical detergent.

7. Handling and storage

Avoid spillage. Take care with disposal of contaminated sharps. Before handling, cover exposed wounds with waterproof dressing and where necessary, cover abraded skin lesions on hands with appropriate disposal gloves. Handle with care and transport in suitable packing to avoid damage and to maintain appropriate temperature. Where risk of blood splashes wear appropriate eye protection.
Storage – please see component sheets for specific detail.

8. Exposure controls/personal protection

Appropriate gloves: Nitrile medical examination gloves.
Where risk of blood splashes wear appropriate eye protection.

9. Physical and chemical properties

Data not available

10. Stability and reactivity - Please see component sheets for specific detail.

11. Toxicological information - Data not available

12. Ecological Information – Data not available

13. Disposal Considerations

Dispose of in accordance with the Hazardous Waste (England and Wales) Regulations 2005 and other legislation in force at time. Under the Hazardous Waste (England and Wales) Regulations 2005, blood products are classified as “EWC Code 18 01 02 – Body Parts, organs and blood” and are “non hazardous” and should be disposed of by incineration.

14. Transport Information

Not classified as a Dangerous Good under current road rail and air transport regulations.
Packaging complies with regulations in Chemicals (Hazard Information and Packaging for Supply) Regulations 2002 (CHIP 3).

15. Regulatory Information

Health and Safety at Work etc. Act 1974
Control of Substances Hazardous to Health Regulations 2002 as amended
Chemicals (Hazard Information and Packaging for Supply) Regulations 2002 (CHIP 3)
Environmental Protection Act 1990
The Hazardous Waste (England and Wales) Regulations 2005

16. Other information

The information in this safety data sheet does not replace the users own assessment of workplace risk as required by other health and safety legislation.

Appendix 3
NHSBT Component Barcodes

These barcodes must only be used to update the Reference Tables on your host laboratory computer with the generic bar codes. **They must not be used to enter an individual component onto the system i.e. when entering a component the barcode scanned in must come directly from the component label.**

It is recommended that a laser printer is used to print this list.

Barcode No.	Barcode No.	Component Name	Pack Divisions
a 0 0 4 3 3 3 3 b	04333	RED CELLS IN ADDITIVE SOLUTION LEUCOCYTE DEPLETED	
a 0 0 4 2 1 6 3 b	04216	RED CELLS IN ADDITIVE SOLUTION LEUCOCYTE DEPLETED PACK 1	PACK 1
a 0 0 4 2 1 7 3 b	04217	RED CELLS IN ADDITIVE SOLUTION LEUCOCYTE DEPLETED PACK 2	PACK 2
a 0 4 4 3 3 3 3 b	44333	RED CELLS IN ADDITIVE SOLUTION LEUCOCYTE DEPLETED, IRRADIATED	
a 0 0 4 3 1 6 3 b	04316	RED CELLS IN ADDITIVE SOLUTION PK1 LEUCOCYTE DEPLETED, IRRADIATED	PACK 1
a 0 0 4 3 1 7 3 b	04317	RED CELLS IN ADDITIVE SOLUTION PK2 LEUCOCYTE DEPLETED, IRRADIATED	PACK 2
a 0 1 0 0 1 0 3 b	10010	RED CELLS WASHED, LEUCODEPLETED	
a 0 2 0 0 1 0 3 b	20010	RED CELLS WASHED,LEUCODEPLETED, IRRADIATED	
a 0 0 6 4 6 0 3 b	06460	RED CELLS THAWED AND WASHED LEUCOCYTE DEPLETED	
a 0 5 4 2 6 3 3 b	54263	RED CELLS THAWED AND WASHED LEUCOCYTE DEPLETED CLOSED SYSTEM PREPARATION	
a 0 0 4 4 0 3 3 b	04403	RED CELLS WASHED, LEUCODEPLETED	

	44403	RED CELLS WASHED, LEUCODEPLETED, IRRADIATED	
	54288	PLATELETS, APHERESIS, LEUCOCYTE DEPLETED	
	54289	PLATELETS, AHPERESIS, LEUCOCYTE DEPLETED	PACK 1
	54290	PLATELETS, AHPERESIS, LEUCOCYTE DEPLETED	PACK 2
	54291	PLATELETS, AHPERESIS, LEUCOCYTE DEPLETED	PACK 3
	54292	PLATELETS, AHPERESIS, LEUCOCYTE DEPLETED, IRRADIATED	
	54293	PLATELETS, AHPERESIS, LEUCOCYTE DEPLETED, IRRADIATED	PACK 1
	54294	PLATELETS, AHPERESIS, LEUCOCYTE DEPLETED, IRRADIATED	PACK 2
	54295	PLATELETS, AHPERESIS, LEUCOCYTE DEPLETED, IRRADIATED	PACK 3
	54243	PLATELETS APHERESIS IN ADDITIVE SOLUTION PACK 1 LEUCOCYTE DEPLETED	PACK 1
	54244	PLATELETS APHERESIS IN ADDITIVE SOLUTION PACK 2 LEUCOCYTE DEPLETED	PACK 2
	54245	PLATELETS APHERESIS IN ADDITIVE SOLUTION PACK 3 LEUCOCYTE DEPLETED	PACK 3
	54246	PLATELETS APHERESIS IN ADDITIVE SOLUTION LEUCOCYTE DEPLETED	
	54233	PLATELETS APHERESIS IN ADDITIVE SOLUTION, IRRADIATED, PACK 1 LEUCOCYTE DEPLETED	PACK 1

	54234	PLATELETS APHERESIS IN ADDITIVE SOLUTION, IRRADIATED, PACK 2 LEUCOCYTE DEPLETED	PACK 2
	54235	PLATELETS APHERESIS IN ADDITIVE SOLUTION, IRRADIATED, PACK 3 LEUCOCYTE DEPLETED	PACK 3
	54236	PLATELETS APHERESIS IN ADDITIVE SOLUTION, IRRADIATED, LEUCOCYTE DEPLETED	
	54477	PLATELETS POOLED IN ADDITIVE SOLUTION AND PLASMA, LEUCODEPLETED	
	54478	PLATELETS POOLED IN ADDITIVE SOLUTION AND PLASMA, IRRADIATED, LEUCODEPLETED	
	18281	FRESH FROZEN PLASMA, LEUCOCYTE DEPLETED	PACK 1
	18282	FRESH FROZEN PLASMA, LEUCOCYTE DEPLETED	PACK 2
	18300	FRESH FROZEN PLASMA, LEUCOCYTE DEPLETED	SINGLE UNIT
	18320	FRESH FROZEN PLASMA, LEUCOCYTE DEPLETED	SINGLE UNIT
	18321	FRESH FROZEN PLASMA, LEUCOCYTE DEPLETED	PACK 1
	18322	FRESH FROZEN PLASMA, LEUCOCYTE DEPLETED	PACK 2
	10170	CRYOPRECIPITATE, LEUCOCYTE DEPLETED	
	10190	CRYOPRECIPITATE, POOLED, LEUCOCYTE DEPLETED	
	40018	RED CELLS, CPD, LEUCOCYTE DEPLETED, IRRADIATED, FOR INTRAUTERINE TRANSFUSION	

	56830	RED CELLS IN ADDITIVE SOLUTION LEUCOCYTE DEPLETED FOR NEONATAL USE	PACK 1
	56831	RED CELLS IN ADDITIVE SOLUTION LEUCOCYTE DEPLETED FOR NEONATAL USE	PACK 2
	56832	RED CELLS IN ADDITIVE SOLUTION LEUCOCYTE DEPLETED FOR NEONATAL USE	PACK 3
	56833	RED CELLS IN ADDITIVE SOLUTION LEUCOCYTE DEPLETED FOR NEONATAL USE	PACK 4
	56834	RED CELLS IN ADDITIVE SOLUTION LEUCOCYTE DEPLETED FOR NEONATAL USE	PACK 5
	56835	RED CELLS IN ADDITIVE SOLUTION LEUCOCYTE DEPLETED FOR NEONATAL USE	PACK 6
	46830	RED CELLS IN ADDITIVE SOLUTION LEUCOCYTE DEPLETED, IRRADIATED FOR NEONATAL USE	PACK 1
	46831	RED CELLS IN ADDITIVE SOLUTION LEUCOCYTE DEPLETED, IRRADIATED FOR NEONATAL USE	PACK 2
	46832	RED CELLS IN ADDITIVE SOLUTION LEUCOCYTE DEPLETED, IRRADIATED FOR NEONATAL USE	PACK 3
	46833	RED CELLS IN ADDITIVE SOLUTION LEUCOCYTE DEPLETED, IRRADIATED FOR NEONATAL USE	PACK 4
	46834	RED CELLS IN ADDITIVE SOLUTION LEUCOCYTE DEPLETED, IRRADIATED FOR NEONATAL USE	PACK 5
	46835	RED CELLS IN ADDITIVE SOLUTION LEUCOCYTE DEPLETED, IRRADIATED FOR NEONATAL USE	PACK 6
	40350	RED CELLS (CPD), LEUCOCYTE DEPLETED, IRRADIATED FOR EXCHANGE TRANSFUSION	
	54481	RED CELLS IN ADDITIVE SOLUTION, LEUCOCYTE DEPLETED	

	54482	RED CELLS IN ADDITIVE SOLUTION, LEUCOCYTE DEPLETED, IRRADIATED	
	54271	FRESH FROZEN PLASMA PAED USE MB TREATED AND REMOVED	
	54272	FRESH FROZEN PLASMA PAED USE MB TREATED AND REMOVED	PACK 1
	54273	FRESH FROZEN PLASMA PAED USE MB TREATED AND REMOVED	PACK 2
	54274	FRESH FROZEN PLASMA PAED USE MB TREATED AND REMOVED	PACK 3
	54275	FRESH FROZEN PLASMA NEONATAL USE MB TREATED AND REMOVED	PACK 1
	54276	FRESH FROZEN PLASMA NEONATAL USE MB TREATED AND REMOVED	PACK 2
	54277	FRESH FROZEN PLASMA NEONATAL USE MB TREATED AND REMOVED	PACK 3
	54278	FRESH FROZEN PLASMA NEONATAL USE MB TREATED AND REMOVED	PACK 4
	54279	FRESH FROZEN PLASMA NEONATAL USE MB TREATED AND REMOVED	PACK 5
	54280	FRESH FROZEN PLASMA NEONATAL USE MB TREATED AND REMOVED	PACK 6
	54281	FRESH FROZEN PLASMA NEONATAL USE MB TREATED AND REMOVED	PACK 7
	54282	FRESH FROZEN PLASMA NEONATAL USE MB TREATED AND REMOVED	PACK 8
	54283	FRESH FROZEN PLASMA NEONATAL USE MB TREATED AND REMOVED	PACK 9

	54284	FRESH FROZEN PLASMA NEONATAL USE MB TREATED AND REMOVED	PACK 10
	54285	FRESH FROZEN PLASMA NEONATAL USE MB TREATED AND REMOVED	PACK 11
	54286	FRESH FROZEN PLASMA NEONATAL USE MB TREATED AND REMOVED	PACK 12
	54260	CRYOPRECIPITATE, METHYLENE BLUE TREATED AND REMOVED, LEUCOCYTE DEPLETED	
	54487	CRYOPRECIPITATE, METHYLENE BLUE TREATED AND REMOVED, LEUCOCYTE DEPLETED	PACK 1
	54488	CRYOPRECIPITATE, METHYLENE BLUE TREATED AND REMOVED, LEUCOCYTE DEPLETED	PACK 2
	54489	CRYOPRECIPITATE, METHYLENE BLUE TREATED AND REMOVED, LEUCOCYTE DEPLETED	PACK 3
	54483	CRYOPRECIPITATE, POOLED, METHYLENE BLUE TREATED AND REMOVED, LEUCOCYTE DEPLETED	
	42964	PLATELETS, HYPERCONCENTRATED, IRRADIATED, FOR NEONATAL USE	
	54397	PLATELETS, APHERESIS, LEUCODEPLETED FOR NEONATAL USE.	PACK 1
	54398	PLATELETS, APHERESIS, LEUCODEPLETED FOR NEONATAL USE.	PACK 2
	54399	PLATELETS, APHERESIS, LEUCODEPLETED FOR NEONATAL USE.	PACK 3
	54400	PLATELETS, APHERESIS, LEUCODEPLETED FOR NEONATAL USE.	PACK 4
	54401	PLATELETS, APHERESIS, LEUCODEPLETED FOR NEONATAL USE.	PACK 5

	54402	PLATELETS, APHERESIS, LEUCODEPLETED FOR NEONATAL USE.	PACK 6
	54403	PLATELETS, APHERESIS, LEUCODEPLETED FOR NEONATAL USE.	PACK 7
	54404	PLATELETS, APHERESIS, LEUCODEPLETED FOR NEONATAL USE.	PACK 8
	54405	PLATELETS, APHERESIS, LEUCODEPLETED FOR NEONATAL USE.	PACK 9
	54406	PLATELETS, APHERESIS, LEUCODEPLETED FOR NEONATAL USE.	PACK 10
	54407	PLATELETS, APHERESIS, LEUCODEPLETED FOR NEONATAL USE.	PACK 11
	54408	PLATELETS, APHERESIS, LEUCODEPLETED FOR NEONATAL USE.	PACK 12
	54409	PLATELETS, APHERESIS, LEUCODEPLETED IRRADIATED FOR NEONATAL USE.	PACK 1
	54410	PLATELETS, APHERESIS, LEUCODEPLETED IRRADIATED FOR NEONATAL USE.	PACK 2
	54411	PLATELETS, APHERESIS, LEUCODEPLETED IRRADIATED FOR NEONATAL USE.	PACK 3
	54412	PLATELETS, APHERESIS, LEUCODEPLETED IRRADIATED FOR NEONATAL USE.	PACK 4
	54413	PLATELETS, APHERESIS, LEUCODEPLETED IRRADIATED FOR NEONATAL USE.	PACK 5
	54414	PLATELETS, APHERESIS, LEUCODEPLETED IRRADIATED FOR NEONATAL USE.	PACK 6
	54415	PLATELETS, APHERESIS, LEUCODEPLETED IRRADIATED FOR NEONATAL USE.	PACK 7

	54416	PLATELETS, APHERESIS, LEUCODEPLETED IRRADIATED FOR NEONATAL USE.	PACK 8
	54417	PLATELETS, APHERESIS, LEUCODEPLETED IRRADIATED FOR NEONATAL USE.	PACK 9
	54418	PLATELETS, APHERESIS, LEUCODEPLETED IRRADIATED FOR NEONATAL USE.	PACK 10
	54419	PLATELETS, APHERESIS, LEUCODEPLETED IRRADIATED FOR NEONATAL USE.	PACK 11
	54420	PLATELETS, APHERESIS, LEUCODEPLETED IRRADIATED FOR NEONATAL USE.	PACK 12
	54395	GRANULOCYTES, POOLED, BUFFY COAT DERIVED, IN PLATELET ADDITIVE SOLUTION AND PLASMA, IRRADIATED	

Appendix 4

Blood Component Development

NHSBT are in the process of evaluating Pathogen Inactivation of platelets.

Pathogen Inactivated platelets

Platelet concentrates in PAS (Platelet Additive Solution) / Plasma mix (usually 65% PAS: 35% plasma), derived from buffy coats, and apheresis platelets in plasma treated using a licensed pathogen inactivation (PI) system prior to issue.

The platelet components meet the required specifications for pooled or apheresis platelets respectively following treatment .

These platelets may be received at any hospital requesting platelets on their orders, and will be produced for adult use only and not for neonatal use.

Appendix 5

Non Routine Blood Components

Any component that NHSBT used to manufacture and now is not routinely made but may need to be available as contingency. An example of this is 5 day expiry platelets which may need to be used should any bacterial testing issues occur.

The Component Specification sheets and barcodes have been moved from the main document to this appendix to make routine component sheets easy to find.

Component name	**Red Cells (CPD) LD**

Red Book reference	8th Edition, Section 7.25

Parameter	NHSBT mean	NHSBT/UK Specification	Note
Volume (mL)	321	220-340	
Haemoglobin (g/unit)	58	>40	
Haematocrit (L/L)	0.53	N/A	
WBC count ($x10^6$/unit)	0.32	<1	
Granulocytes ($x\ 10^9$/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	N/A	N/A	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	N/A	<0.8%	Of red cell mass at the end of shelf life
pH at expiry	N/A	N/A	

Anticoagulant(s)	CPD
Suspension medium	N/A
Shelf Life	28 days
Availability	Not routinely available, by special order only. Up to 24 hrs notice required... Please discuss with NHSBT consultant
Storage	4℃±2℃.
Transport	The component surface temperature must be maintained between 2℃ and 10℃ during transportation.
CMV status	Available as CMV Negative
Red cell phenotype	By special request only
Additional testing requirement	N/A
Donor Specification	Standard
Additional notes	

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
0053	a0	04454	3b	CPD

Component name	**Red Cells (CPD) LD, Irradiated**

Red Book reference	8th Edition, Section 7.25 & 7.31

Parameter	NHSBT mean	NHSBT/UK Specification	Note
Volume (mL)	321	220-340	
Haemoglobin (g/unit)	58	>40	
Haematocrit (L/L)	0.53	N/A	
WBC count ($x10^6$/unit)	0.32	<5	EU Directive spec of <1
Granulocytes (x 10^9/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	N/A	N/A	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	N/A	<0.8%	Of red cell mass at the end of shelf life
pH at expiry	N/A	N/A	

Anticoagulant(s)	CPD
Suspension medium	N/A
Shelf Life	14 days from date of irradiation for adult use
Availability	Not routinely available, by special order only. . Up to 24 hrs notice required... Please discuss with NHSBT consultant
Storage	4℃±2℃.
Transport	The component surface temperature must be maintained between 2℃ and 10℃ during transportation.
CMV status	Available as CMV Negative
Red cell phenotype	By special request only
Additional testing requirement	N/A
Donor Specification	Standard
Additional notes	Product must be irradiated within 14 days of donation

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
G053	a0	44454	3b	CPD

Component name	**Platelets, Apheresis, LD**

Red Book reference	8th Edition, Section 7.10

Parameter	NHSBT mean	NHSBT Specification	Note
Volume (mL)	199	Locally defined	
Haemoglobin (g/unit)	N/A	N/A	
Haematocrit (L/L)	N/A	N/A	
WBC count ($x10^6$/unit)	0.41	<1	
Granulocytes ($x\ 10^9$/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	292	≥ 240	165 – 510x 10^9/unit
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	N/A	N/A	
pH at expiry	7.1	6.4 – 7.4	

Anticoagulant(s)	ACD
Suspension medium	N/A
Shelf Life	5days
Availability	Not routinely available
Storage	22°C ± 2°C with agitation
Transport	22°C ± 2°C
CMV status	negative on request
Phenotype	HLA/HPA selected on request
Additional testing requirement	N/A
Donor Specification	Requirements for apheresis donors
Additional notes	

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
0371	a0	58340	3b	Pack 1
0372	a0	58341	3b	Pack 2
0373	a0	58342	3b	Pack 3
0379	a0	12030	3b	(Single unit)

Component name	**Platelets, Apheresis, LD, Irradiated**

Red Book reference	8th Edition, Section 7.10 & 7.31

Parameter	NHSBT mean	NHSBT Specification	Note
Volume (mL)	199	Locally defined	
Haemoglobin (g/unit)	N/A	N/A	
Haematocrit (L/L)	N/A	N/A	
WBC count ($x10^6$/unit)	0.41	<1	
Granulocytes (x 10^9/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	292	≥ 240	165 – 510x 10^9/unit
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	N/A	N/A	
pH at expiry	7.1	6.4 – 7.4	

Anticoagulant(s)	ACD
Suspension medium	N/A
Shelf Life	5 days
Availability	Not routinely available
Storage	22°C ± 2°C with agitation
Transport	22°C ± 2°C
CMV status	negative on request
Phenotype	HLA/HPA selected on request
Additional testing requirement	N/A
Donor Specification	Requirements for apheresis donors
Additional notes	

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
G371	a0	48340	3b	Pack 1
G372	a0	48341	3b	Pack 2
G373	a0	48342	3b	Pack 3
G379	a0	42030	3b	(Single unit)

Component name	**Platelets, Pooled, LD, Extended Life**

Red Book reference	8th Edition, Section 7.9

Parameter	NHSBT mean	NHSBT Specification	Note
Volume (mL)	298	locally defined	
Haemoglobin (g/unit)	N/A	N/A	
Haematocrit (L/L)	N/A	N/A	
WBC count ($x10^6$/unit)	0.31	<5	EU Directive spec of <1
Granulocytes (x 10^9/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	317	≥240	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	N/A	N/A	
pH at expiry	7.3	6.4 – 7.4	

Anticoagulant(s)	CPD
Suspension medium	N/A
Shelf Life	7 days
Availability	Not routinely available
Storage	22°C ± 2°C with agitation
Transport	22°C ± 2°C
CMV status	negative on request
Red cell phenotype	N/A
Additional testing requirement	Bacteriological screen
Donor Specification	Previous donation within last two years
Additional notes	Pooled platelets in plasma. Male donors are used as source of suspending plasma. Pools are of 4 buffy coats

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
L376	a0	12789	3b	

Component name	**Platelets, Pooled, LD, Extended Life, Irradiated**

Red Book reference	8th Edition, Section 7.9 & 7.31

Parameter	NHSBT mean	NHSBT Specification	Note
Volume (mL)	298	locally defined	
Haemoglobin (g/unit)	N/A	N/A	
Haematocrit (L/L)	N/A	N/A	
WBC count ($x10^6$/unit)	0.31	<5	EU Directive spec of <1
Granulocytes ($x\ 10^9$/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	317	≥240	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	N/A	N/A	
pH at expiry	7.3	6.4 – 7.4	

Anticoagulant(s)	CPD
Suspension medium	N/A
Shelf Life	7 days
Availability	Usually available at times potential national platelet shortages
Storage	22°C ± 2°C with agitation
Transport	22°C ± 2°C
CMV status	negative on request
Red cell phenotype	N/A
Additional testing requirement	Bacteriological screen
Donor Specification	Previous donation within last two years
Additional notes	Pooled platelets in plasma. Male donors are used as source of suspending plasma. Pools are of 4 buffy coats

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
G376	a0	54296	3b	

Component name	**Platelets, Pooled, LD**

Red Book reference	8th Edition, Section 7.9

Parameter	NHSBT mean	NHSBT Specification	Note
Volume (mL)	298	Locally defined	
Haemoglobin (g/unit)	N/A	N/A	
Haematocrit (L/L)	N/A	N/A	
WBC count ($x10^6$/unit)	0.34	<1	
Granulocytes (x 10^9/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	317	≥240	165-500 x 10^9/unit
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	N/A	N/A	
pH at expiry	7.3	6.4 – 7.4	

Anticoagulant(s)	CPD
Suspension medium	N/A
Shelf Life	5 days
Availability	Not routinely available
Storage	22°C ± 2°C with agitation
Transport	22°C ± 2°C
CMV status	negative on request
Red cell phenotype	N/A
Additional testing requirement	N/A
Donor Specification	Previous donation within last two years
Additional notes	Pooled platelets in plasma. Male donors are used as source of suspending plasma. Pools are of 4 buffy coats

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
0378	a0	12769	3b	

Component name	**Platelets, Pooled, LD, Irradiated**

Red Book reference	8th Edition, Section 7.9 & 7.31

Parameter	NHSBT mean	NHSBT Specification	Note
Volume (mL)	298	Locally defined	
Haemoglobin (g/unit)	N/A	N/A	
Haematocrit (L/L)	N/A	N/A	
WBC count ($x10^6$/unit)	0.34	<1	
Granulocytes (x 10^9/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	317	≥240	165 – 500 x 10^9/unit
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	N/A	N/A	
pH at expiry	7.3	6.4 – 7.4	

Anticoagulant(s)	CPD
Suspension medium	N/A
Shelf Life	5 days
Availability	Not routinely available
Storage	22°C ± 2°C with agitation
Transport	22°C ± 2°C
CMV status	negative on request
Red cell phenotype	N/A
Additional testing requirement	N/A
Donor Specification	Previous donation within last two years
Additional notes	Pooled platelets in plasma. Male donors are used as source of suspending plasma. Pools are of 4 buffy coats

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
G378	a0	42769	3b	

Component name	**Platelets Pooled, in Additive Solution**

Red Book reference	8h Edition, Section 7.12

Parameter	NHSBT mean	NHSBT Specification	Note
Volume (mL)	290	150-420 x 10^9/unit	
Haemoglobin (g/unit)	N/A	N/A	
Haematocrit (L/L)	N/A	N/A	
WBC count (x10^6/unit)	0.33	<1	
Granulocytes (x 10^9/unit)	N/A	N/A	
Platelet concentration (x10^9/L)	N/A	N/A	
Platelet yield (x10^9/unit)	285	165-500 x10^9/unit	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	N/A	N/A	
pH at expiry	7.3	6.4 – 7.4	

Anticoagulant(s)	CPD
Suspension medium	Platelet Additive Solution (SSP)
Shelf Life	24 hours from time of preparation
Availability	By special order only. . Up to 24 hrs notice required... Please discuss with NHSBT consultant
Storage	22°C ± 2°C with agitation
Transport	22°C ± 2°C
CMV status	negative on request
Red cell phenotype	N/A
Additional testing requirement	Limited HEV negative stock available
Donor Specification	Previous donation within last two years
Additional notes	Pools are made from 4 Buffy coats. Apheresis platelets are washed in preference to pools

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
0383	a0	54247	3b	

Component name	**Platelets Pooled, in Additive Solution, Irradiated**

Red Book reference	8th edition, Section 7.9, 7.11 & 7.31

Parameter	NHSBT mean	NHSBT Specification	Note
Volume (mL)	290	150-420 x 10^9/unit	
Haemoglobin (g/unit)	N/A	N/A	
Haematocrit (L/L)	N/A	N/A	
WBC count (x10^6/unit)	0.33	<1	
Granulocytes (x 10^9/unit)	N/A	N/A	
Platelet concentration (x10^9/L)	N/A	N/A	
Platelet yield (x10^9/unit)	284	165-500 x10^9/unit	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	N/A	N/A	
pH at expiry	7.3	6.4 – 7.4	

Anticoagulant(s)	CPD
Suspension medium	Platelet Additive Solution (SSP)
Shelf Life	24 hours from time of preparation
Availability	By special order only. . Up to 24 hrs notice required... Please discuss with NHSBT consultant
Storage	22°C ± 2°C with agitation
Transport	22°C ± 2°C
CMV status	negative on request
Red cell phenotype	N/A
Additional testing requirement	Limited HEV negative stock available
Donor Specification	Previous donation within last two years
Additional notes	Pools are made from 4 Buffy coats Apheresis platelets are washed in preference to pools

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
G383	a0	54237	3b	

Component name	**Platelets, Apheresis, LD For Neonatal Use**

Red Book reference	8th Edition, Section 7.3

Parameter	NHSBT mean	NHSBT Specification	Note
Volume (mL)	50	Locally defined	
Haemoglobin (g/unit)	N/A	N/A	
Haematocrit (L/L)	N/A	N/A	
WBC count ($x10^6$/unit)	0.1	< 1	
Granulocytes ($x\ 10^9$/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	73	>40	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	N/A	N/A	
pH at expiry	N/A	6.4 to 7.4	

Anticoagulant(s)	ACD
Suspension medium	N/A
Shelf Life	5 days
Availability	Not routinely available
Storage	22°C ± 2°C with agitation
Transport	22°C ± 2°C
CMV status	Negative
Red cell phenotype	N/A
Additional testing requirement	The component should be free from clinically significant irregular blood group antibodies including high titre anti-A and anti-B.
Donor Specification	Previous donation within the last two years. Ideally male donor
Additional notes	

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
0U11	a0	58231	3b	Pack 1
0U12	a0	58232	3b	Pack 2
0U13	a0	58233	3b	Pack 3
0U14	a0	58234	3b	Pack 4
0U15	a0	58235	3b	Pack 5
0U16	a0	58236	3b	Pack 6
0U17	a0	58237	3b	Pack 7
0U18	a0	58238	3b	Pack 8
0U19	a0	50778	3b	Pack 9
0U21	a0	50779	3b	Pack 10
0U22	a0	50780	3b	Pack 11
0U23	a0	50781	3b	Pack 12

Component name	**Platelets, Apheresis, LD Irradiated For Neonatal Use**

Red Book reference	8th Edition, Section 7.3, 7.31

Parameter	NHSBT mean	NHSBT Specification	Note
Volume (mL)	50	Locally defined	
Haemoglobin (g/unit)	N/A	N/A	
Haematocrit (L/L)	N/A	N/A	
WBC count ($x10^6$/unit)	0.1	< 1	
Granulocytes ($x\ 10^9$/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	73	>40	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	N/A	N/A	
pH at expiry	N/A	6.4 to 7.4	

Anticoagulant(s)	ACD
Suspension medium	N/A
Shelf Life	5 days
Availability	Not routinely available
Storage	22°C ± 2°C with agitation
Transport	22°C ± 2°C
CMV status	Negative
`Red cell phenotype	N/A
Additional testing requirement	The component should be free from clinically significant irregular blood group antibodies including high titre anti-A and anti-B.
Donor Specification	Previous donation within the last two years. Ideally male donor
Additional notes	

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
GU11	a0	48231	3b	Pack 1
GU12	a0	48232	3b	Pack 2
GU13	a0	48233	3b	Pack 3
GU14	a0	48234	3b	Pack 4
GU15	a0	48235	3b	Pack 5
GU16	a0	48236	3b	Pack 6
GU17	a0	48237	3b	Pack 7
GU18	a0	48238	3b	Pack 8
GU19	a0	40778	3b	Pack 9
GU21	a0	40779	3b	Pack 10
GU22	a0	40780	3b	Pack 11
GU23	a0	40781	3b	Pack 12

Component name	**Leucocytes, Buffy Coat, Irradiated**

Red Book reference	None

Parameter	NHSBT mean	NHSBT Specification	Note
Volume (mL)	60	40-60	Locally defined
Haemoglobin (g/unit)	N/A	N/A	
Haematocrit (L/L)	0.45	N/A	
WBC count ($x10^6$/unit)	N/A	N/A	
Granulocytes ($x\ 10^9$/unit)	1.0		
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	70	N/A	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	N/A	N/A	
pH at expiry	N/A	N/A	

Anticoagulant(s)	CPD
Suspension medium	N/A
Shelf Life	Midnight on day 1
Availability	Not routinely available
Storage	22°C ± 2°C
Transport	22°C ± 2°C
CMV status	Negative on request
Red cell phenotype	N/A
Additional testing requirement	N/A
Donor Specification	N/A
Additional notes	**Do not agitate**.

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
G351	a0	46460	3b	

Component name	**Granulocytes, Apheresis, Irradiated**

Red Book reference	8th Edition, Section 7.13 & 7.31

Parameter	NHSBT mean	NHSBT Specification	Note
Volume (mL)	312	Locally defined	
Haemoglobin (g/unit)	N/A	N/A	
Haematocrit (L/L)	0.23	N/A	
WBC count ($x10^6$/unit)	N/A	N/A	
Granulocytes ($x\ 10^9$/unit)		>5 $x\ 10^9$/unit	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	111	N/A	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	N/A	N/A	
pH at expiry	N/A	N/A	

Anticoagulant(s)	ACD
Suspension medium	N/A
Shelf Life	24 hours from time of preparation
Availability	Not routinely available.
Storage	22°C ± 2°C **Do not agitate**.
Transport	22°C ± 2°C
CMV status	Negative on request
Red cell phenotype	N/A
Additional testing requirement	N/A
Donor Specification	N/A
Additional notes	

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
G352	a0	46435	3b	

Component name	**Whole Blood (CPDA1) Autologous**

Red Book reference	None

Parameter	NHSBT mean	NHSBT/UK Specification	Note
Volume (mL)	451	405 – 495	
Haemoglobin (g/unit)	62	>40	
Haematocrit (L/L)	N/A	N/A	
WBC count ($x10^6$/unit)	0.50	<1	
Granulocytes (x 10^9/unit)	N/A	N/A	
Platelet concentration ($x10^9$/L)	N/A	N/A	
Platelet yield ($x10^9$/unit)	N/A	N/A	
Factor VIIIc (IU/mL)	N/A	N/A	
Factor VIIIc (IU/unit)	N/A	N/A	
Fibrinogen (mg/unit)	N/A	N/A	
Supernatant Hb	N/A	<0.8%	Of red cell mass at the end of shelf life
pH at expiry	N/A	N/A	

Anticoagulant(s)	CPDA1
Suspension medium	N/A
Shelf Life	35 days
Availability	Discuss with NHSBT consultant
Storage	4℃±2℃.
Transport	The component surface temperature must be maintained between 2℃ and 10℃ during transportation.
CMV status	N/A
Red cell phenotype	N/A
Additional testing requirement	N/A
Donor Specification	Standard
Additional notes	

NHSBT Pulse Code	Start Code	Barcode No.	Stop Code	Additional
0Y51	a0	30002	3b	

Barcodes for Non Routine Products

These barcodes must only be used to update the Reference Tables on your host laboratory computer with the generic bar codes if you are receiving any product as part of a trial or emergency. **They must not be used to enter an individual component onto the system i.e. when entering a component the barcode scanned in must come directly from the component label.**

It is recommended that a laser printer is used to print this list.

Barcode No.	Barcode No.	Component Name	Pack Divisions
	04454	RED CELLS (CPD) LEUCOCYTE DEPLETED	
	44454	RED CELLS (CPD) LEUCOCYTE DEPLETED, IRRADIATED	
	12030	PLATELETS APHERESIS LEUCOCYTE DEPLETED	
	58340	PLATELETS, APHERESIS LEUCOCYTE DEPLETED	PACK 1
	58341	PLATELETS, APHERESIS LEUCOCYTE DEPLETED	PACK 2
	58342	PLATELETS, APHERESIS LEUCOCYTE DEPLETED	PACK 3
	42030	PLATELETS, APHERESIS LEUCOCYTE DEPLETED, IRRADIATED	
	48340	PLATELETS, APHERESIS LEUCODEPLETED IRRADIATED	PACK 1
	48341	PLATELETS, APHERESIS LEUCODEPLETED IRRADIATED	PACK 2
	48342	PLATELETS, APHERESIS LEUCODEPLETED IRRADIATED	PACK 3
	12769	PLATELETS POOLED, LEUCODEPLETED	
	12789	PLATELETS POOLED, LEUCODEPLETED	

	54296	PLATELETS, POOLED, LEUCOCYTE DEPLETED, IRRADIATED	
	54247	PLATELETS POOLED IN ADDITIVE SOLUTION	
	54237	PLATELETS POOLED, IN ADDITIVE SOLUTION, IRRADIATED	
	42769	PLATELETS, POOLED LEUCOCYTE DEPLETED, IRRADIATED	
	58231	PLATELETS, APHERESIS, PACK 01 LEUCODEPLETED FOR NEONATAL USE	PACK 1
	58232	PLATELETS. APHERESIS, PACK 02 LEUCODEPLETED FOR NEONATAL USE	PACK 2
	58233	PLATELETS, APHERESIS, PACK 03 LEUCODEPLETED FOR NEONATAL USE	PACK 3
	58234	PLATELETS, APHERESIS, PACK 04 LEUCODEPLETED FOR NEONATAL USE	PACK 4
	58235	PLATELETS, APHERESIS, PACK 05 LEUCODEPLETED FOR NEONATAL USE	PACK 5
	58236	PLATELETS, APHERESIS, PACK 06 LEUCODEPLETED FOR NEONATAL USE	PACK 6
	58237	PLATELETS. APHERESIS, PACK 07 LEUCODEPLETED FOR NEONATAL USE	PACK 7
	58238	PLATELETS, APHERESIS, PACK 08 LEUCODEPLETED FOR NEONATAL USE	PACK 8
	50778	PLATELETS, APHERESIS, PACK 09 LEUCODEPLETED FOR NEONATAL USE	PACK 9
	50779	PLATELETS, APHERESIS, PACK 10 LEUCODEPLETED FOR NEONATAL USE	PACK 10

	50780	PLATELETS. APHERESIS, PACK 11 LEUCODEPLETED FOR NEONATAL USE	PACK 11
	50781	PLATELETS, APHERESIS, PACK 12 LEUCODEPLETED FOR NEONATAL USE	PACK 12
	48231	PLATELETS, APHERESIS, PACK 1 LEUCODEPLETED, IRRADIATED FOR NEONATAL USE	PACK 1
	48232	PLATELETS, APHERESIS, PACK 02 LEUCODEPLETED, IRRADIATED FOR NEONATAL USE	PACK 2
	48233	PLATELETS, APHERESIS, PACK 03 LEUCODEPLETED, IRRADIATED FOR NEONATAL USE	PACK 3
	48234	PLATELETS, APHERESIS, PACK 04 LEUCODEPLETED, IRRADIATED FOR NEONATAL USE	PACK 4
	48235	PLATELETS, APHERESIS, PACK 05 LEUCODEPLETED, IRRADIATED FOR NEONATAL USE	PACK 5
	48236	PLATELETS, APHERESIS, PACK 06 LEUCODEPLETED, IRRADIATED FOR NEONATAL USE	PACK 6
	48237	PLATELETS, APHERESIS, PACK 07 LEUCODEPLETED, IRRADIATED FOR NEONATAL USE	PACK 7
	48238	PLATELETS, APHERESIS, PACK 08 LEUCODEPLETED, IRRADIATED FOR NEONATAL USE	PACK 8
	40778	PLATELETS, APHERESIS, PACK 09 LEUCODEPLETED, IRRADIATED FOR NEONATAL USE	PACK 9
	40779	PLATELETS, APHERESIS, PACK 10 LEUCODEPLETED, IRRADIATED FOR NEONATAL USE	PACK 10
	40780	PLATELETS, APHERESIS, PACK 11 LEUCODEPLETED, IRRADIATED FOR NEONATAL USE	PACK 11
	40781	PLATELETS, APHERESIS, PACK 12 LEUCODEPLETED, IRRADIATED FOR NEONATAL USE	PACK 12

	46460	LEUCOCYTES, BUFFY COAT, IRRADIATED	
	46435	GRANULOCYTES, APHERESIS, IRRADIATED	
	30002	WHOLE BLOOD (CPDA1) AUTOLOGOUS	
	29921	PLATELETS APHERESIS, EXTENDED LIFE, PATHOGEN INACTIVATED, PACK 1, IN ADDITIVE SOLUTION AND PLASMA	
	29922	PLATELETS APHERESIS, EXTENDED LIFE, PATHOGEN INACTIVATED, PACK 2, IN ADDITIVE SOLUTION AND PLASMA	
	29923	PLATELETS APHERESIS, EXTENDED LIFE, PATHOGEN INACTIVATED, PACK 3, IN ADDITIVE SOLUTION AND PLASMA	
	29920	PLATELETS APHERESIS, EXTENDED LIFE, PATHOGEN INACTIVATED, IN ADDITIVE SOLUTION AND PLASMA	
	29931	PLATELETS APHERESIS, EXTENDED LIFE, PATHOGEN INACTIVATED, IRRADIATED, PACK 1, IN ADDITIVE SOLUTION AND PLASMA	
	29932	PLATELETS APHERESIS, EXTENDED LIFE, PATHOGEN INACTIVATED, IRRADIATED, PACK 2, IN ADDITIVE SOLUTION AND PLASMA	
	29933	PLATELETS APHERESIS, EXTENDED LIFE, PATHOGEN INACTIVATED, IRRADIATED, PACK 3, IN ADDITIVE SOLUTION AND PLASMA	
	29930	PLATELETS APHERESIS, EXTENDED LIFE, PATHOGEN INACTIVATED, IRRADIATED IN ADDITIVE SOLUTION AND PLASMA	
	29924	PLATELETS POOLED, EXTENDED LIFE, PATHOGEN INACTIVATED, IN ADDITIVE SOLUTION AND PLASMA	
	29934	PLATELETS POOLED, EXTENDED LIFE, PATHOGEN INACTIVATED, IRRADIATED, IN ADDITIVE SOLUTION AND PLASMA	

Appendix 6

Glossary of Blood Transfusion abbreviations and acronyms.

Acronym or Abbreviation	Represents	Description
ABO	**The ABO system**	The major blood group classification system. Blood may belong to group O, A, B or AB. See also Rh(D).
ACD	**Acid Citrate Dextrose**	This is an anticoagulant used in the production of platelet rich plasma in extracorpeal blood processing systems. e.g. apheresis
AITP	**Autoimmune Thrombocytopenic Purpura**	An immune platelet disorder in which autoantibodies are directed against platelet antigens resulting in platelet destruction.
ATD	**Adult Therapeutic Dose**	Usually used in reference to platelets to describe the number of cells which would normally be transfused to an adult in a single transfusion episode.
APH	**Apheresis**	A medical technology in which the blood of a donor is separated into its component parts, the desired component is removed, and the remaining components are returned to the donor.
BC	**Buffy Coat**	The layer of material which separates plasma from red cells when blood is spun hard in a centrifuge. Rich in platelets, it is used to manufacture platelet concentrates.
BCSH	**British Committee for Standards in Haematology**	A group within the British Society for Haematology which produces national guidelines in the field of blood transfusion and blood disorders. http://www.bcshguidelines.com/
BSE	**Bovine Spongiform Encephalopathy**	Commonly known as 'mad-cow disease', a fatal, neurodegenerative disease in cattle that causes a spongy degeneration in the brain and spinal cord.
BSQR	**Blood Safety and Quality Regulations**	Regulations that came into force in 2005 which blood establishments and hospital blood banks are inspected against by MHRA.
CMV	**Cytomegalovirus**	A common herpes virus, causing no symptoms for most adults but potentially more serious for some groups. CMV negative blood components are provided for intra-uterine transfusions and neonates.
CD	**Component Donation**	Another term for apheresis (see above)
CPA	**Clinical Pathology Accreditation**	An external agency that assesses the quality of performance in medical laboratory against ISO standards.
CPD	**Citrate Phosphate Dextrose**	This is an anticoagulant used in blood packs for the preservation of whole blood or red blood cells.
CRYO	**Cryoprecipitate**	The cryoglobulin fraction of plasma obtained by thawing a single donation of fresh frozen plasma at 4℃±2℃. The component represents a source of concentrated factor VIII, von Willebrand factor, fibrinogen, Factor XIII and fibronectin from a unit of fresh frozen plasma. It is mainly used as a source of fibrinogen.
DAT	**Direct Antiglobulin Test**	A sensitive method for detection of antibodies attached to red blood cells.

Acronym or Abbreviation	Represents	Description
DIC	**Disseminated Intravascular Coagulation**	An acquired syndrome characterized by the intravascular activation of coagulation with loss of localization arising from different causes. It can originate from and cause damage to the microvasculature, and can present with bleeding or microthrombi.
FFP	**Fresh Frozen Plasma**	A frozen blood component derived by separating the acellular liquid from blood and rapidly freezing it. Used as a source of clotting factors.
GMP	**Good Manufacturing Practice**	Guidelines designed to ensure that pharmaceutical products and components are safe and effective. The UK guidelines are published in an orange covered book sometimes known as "The Orange Guide".
TA-GvHD	**Transfusion Associated Graft Versus Host Disease**	A syndrome caused by the attack made on a patient's body by a transfused blood component. Can be fatal. Prevented by gamma irradiation of blood components for vulnerable patients.
H&I	**Histocompatibility and Immunogenetics**	A scientific discipline concerned with the matching of donors to recipients.
Hb	**Haemoglobin**	Molecule within red blood cells which provides the red pigmentation and which binds reversibly to allow oxygen to be transported around the human body.
HbS	**Haemoglobin S**	Type of haemoglobin found in patients with sickle cell disease.
HBV	**Hepatitis B Virus**	Infectious virus which causes Hepatitis and which can be transmitted by infected blood.
HCV	**Hepatitis C Virus**	Infectious virus which causes Hepatitis and which can be transmitted by infected blood.
HEV	**Hepatitis E Virus**	Infectious virus which causes Hepatitis and which can be transmitted by infected blood
HDN (or HDFN)	**Haemolytic Disease of the Foetus/New-born**	Disease of foetus/neonate caused by incompatibility of mother and baby's red cell blood groups.
HIV	**Human Immunodeficiency Virus**	Infectious virus which causes AIDS and which can be transmitted by infected blood.
HLA	**Human Leucocyte Antigen**	The major histocompatibility complex in humans, containing many genes relating to immunity. Important in disease defence; and an immune response to a donor's HLA is the major cause of organ transplant rejection.
HPA	**Human Platelet Antigen**	Differences in the HPAs of the donor and recipient of a platelet transfusion may cause an adverse immune response to the transfusion. Commonly 1a/5b.
HT	**High Titre**	Generally refers to a titre of Anti-A and/or anti-B being >1/128 or equivalent that has a greater potential of causing a haemolytic transfusion reaction.
HTLV	**Human T-cell Leukaemia/lymphoma Virus**	A virus which causes leukaemia and which may be transmitted by infected blood.
IAT	**Indirect Antiglobulin Test**	A sensitive method for the detection of blood group antibodies.
IUT	**Intra Uterine Transfusion**	Transfusions given to a foetus while in the womb,

Acronym or Abbreviation	Represents	Description
		usually of platelets or red cells.
JPAC	**Joint United Kingdom Blood Transfusion and Tissue Transplantation Services Professional Advisory Committee**	Includes representation from the 4 UK blood services and from the MHRA. Responsible for producing Guidelines for the UK Transfusion Services (the 'Red Book'). http://www.transfusionguidelines.org.uk/
LD	**Leucocyte depletion (or leucodepletion / leucoreduction)**	The process of removing white blood cells (leucocytes) from blood donations. or components
MBT	**Methylene Blue treatment**	A process for inactivating viruses present in plasma.
MHRA	**Medicines and Healthcare products Regulatory Authority**	An executive agency of the Department of Health that enhances and safeguards the health of the public by ensuring that medicines and medical devices work and are acceptably safe. http://www.mhra.gov.uk/
NAT	**Nucleic acid Amplification Technology**	A technology which uses the PCR reaction to amplify viral nucleic acid to levels at which it is possible to detect very small quantities of infectious material.
NFBB	**National Frozen Blood Bank**	A department within NHSBT which freezes, stores and subsequently makes available for transfusion certain very rare blood units.
NHSBT	**NHS Blood and Transplant**	NHSBT was established as a Special Health Authority in October 2005. Its remit is to provide a reliable, efficient supply of blood, organs, stem cells and tissues, and associated services, to the NHS. It comprises the National Blood Service and Organ Donation and Transplantation. http://www.nhsbt.nhs.uk/
PAS	**Platelet Additive Solution**	Examples are; T-sol, SSP and SSP+
PC	**Platelet Concentrate or 'platelets'**	A blood component containing platelets, either produced from buffy coats from whole blood donations or collected by apheresis.
PI	**Pathogen Inactivation**	A technology that targets nucleic acid using ultraviolet light illumination with or without a photosensitiser to improve the safety of blood components (e.g. plasma or platelets) with regard to bacterial contamination and new pathogens.
RhD	**Rhesus D**	Another major antigen present on red blood cells that determines whether a person is either Rh(D) negative or positive. See also ABO.
SaBTO	**Advisory Committee on the Safety of Blood, Tissues and Organs**	Advises Health Ministers in England, Wales, Scotland and Northern Ireland; the UK Health Departments; the UK Blood services and Transplant services, and the NHS more widely on the most appropriate ways to ensure the safety of blood, cells, tissues and organs for transfusion / transplantation. Its remit includes providing advice on the microbiological safety of gametes, in liaison with the Human Fertilisation and Embryology Authority (HFEA). https://www.gov.uk/government/policy-advisory-groups/advisory-committee-on-the-safety-of-blood-tissues-and-organs
SAGM	**Saline Adenine Glucose**	An additive solution used for the collection and storage

Acronym or Abbreviation	Represents	Description
	Mannitol	of red cells in vitro.
SDFFP	**Solvent Detergent Fresh Frozen Plasma**	A virus-inactivated plasma component produced commercially (not by NHSBT) from a large pool of plasma donations. Used as for FFP.
SHOT	**Serious Hazards of Transfusion**	UK wide reporting system designed to capture and analyse adverse transfusion events/near misses. Findings are published annually. http://www.shotuk.org/home/
SSP	**Proprietary Platelet Additive Solution**	Platelet additive solution used to resuspend platelets once the plasma is removed.
SSP+	**Proprietary Platelet Additive Solution**	Platelet additive solution to improve storage stability of buffycoat and apheresis platelet concentrates for up to seven days with a maximum ratio of up to 80% SSP+ / 20% plasma.
vCJD	**Variant Creutzfeldt-Jakob Disease**	Fatal disease of the brain/central nervous system which is a variation of classical CJD and which is believed to have derived in the UK from BSE in cattle. Can be transmitted by infected blood.

Appendix 7

Availability of Non Stock and Special Components, including those required for urgent requests.

Normal Working hours are (except for the National Frozen Blood Bank):
Monday – Friday: 0800 – 2200
Saturday: 0800 - 1200

Unless otherwise stated, delivery times are included in the stated time required. However, these may vary depending upon distance to hospital, time of day, road conditions etc and cannot be guaranteed.

An NHSBT consultant is always available to discuss the appropriate choice of component and the clinical urgency of the request. In situations where the request cannot be met by NHSBT in the clinically required timeframe, the consultant will be able to discuss a suitable alternative. Items not identified as stock require specific NHSBT consultant approval for the first request.

Special components often need to be sourced from a location other than the stock holding unit that routinely serves your hospital, which may lead to a delay. Secondary processing may also be necessary to enable us to fulfil your ordering requirement, also leading to a delay.

Please inform your local Hospital Services Department immediately, by telephone, if you no longer require a specialist component you have ordered. You will still need to cancel the order on OBOS. This will ensure effective management of our components, and keep wastage to a minimum.

Component	Availability
Red Cells, Thawed and Washed (Manual Preparation)	For planned procedures please provide 24 hours notice. For urgent requests 4 hours processing time is required for the first two units (6 hours outside normal working hours) plus 2 hours for every additional two units. Any components that require further processing post thaw and wash will incur an additional delay. This product is only supplied from Liverpool; therefore delivery time from Liverpool should be added.
Red Cells, Thawed and Washed, (Closed System Preparation)	For red cells, thawed and washed, normal working hours are: Monday – Friday, 0900 – 1700.

Red Cells, Washed, LD / Irradiated **Red Cells, Washed LD (Manual Preparation) / Irradiated**	Limited stock item only (14 day expiry), held at the following stock holding units: • Colindale (2 units of group O positive and 2 units of group A positive) • Filton (2 units of group O positive) • Newcastle (2 units of group A positive). Please note: extended phenotype (antigen negative) units are not held as stock. If a transfer from another stock holding unit is required, there will be an additional delay. For planned procedures please provide 24 hours notice. For urgent requests in excess of available stock, 4 hours notice is required (8 hours outside normal working hours).
Platelets, Apheresis, in Additive Solution LD **Platelets, Apheresis, in Additive Solution LD, Irradiated**	For planned procedures please provide 24 hours notice. For urgent requests 6 hours notice is required (8 hours outside normal working hours).
Red Cells for Intrauterine Transfusion (IUT), LD	All units suitable for IUT are irradiated. For planned procedures please provide 24 hours notice. For pheonotypes other than O rr & O R1R1, up to 24 hours notice is required. For urgent requests 4 hours notice is required (6 hours outside normal working hours).
Red Cells, in Additive Solution, LD, For Neonatal Use **Red Cells, in Additive Solution, LD, Irradiated, For Neonatal Use** **Commonly known as split packs**	Limited stock item only held at the following stock holding units: Group O D neg at all sites Group O D pos at: Birmingham, Brentwood, Cambridge, Colindale, Manchester and Newcastle Group A D neg at Manchester and Southampton Group A D pos at Manchester only Units unavailable from stock will require 4 hours notice (6 hrs outside normal working hours). If a transfer from another stock holding unit is required, there will be an additional delay
Red Cells in Additive Solution, LD, for Neonates and Infants. **Red Cells in Additive Solution, LD, for Neonates and Infants, Irradiated.** **Commonly known as Large volume Transfusion (LVT)**	Limited stock item only held at the following stock holding units: • Birmingham and Liverpool – Group A and O • Colindale, Manchester and Tooting – Group A, B and O • Newcastle – Group O • Sheffield – Group O rr only If a transfer from another stock holding unit is required, there will be an additional delay.

Red Cells (CPD), LD, Irradiated **For Neonatal Exchange Transfusion**	Limited stock item (group O rr and O R1R1), only held at the following stock holding units: • Birmingham, Cambridge, Filton, Manchester, Newcastle, Oxford, Sheffield and Tooting – Group O R1R1 and O rr • Plymouth and Southampton – Group O rr only Units held in stock require additional processing and irradiation prior to issue and will therefore incur a short delay before dispatch to your hospital. Please note; extended phenotype (antigen negative) units are not held as stock For planned procedures please provide 24 hours notice.
Platelets, Apheresis, LD, for Neonatal use. **Platelets, Apheresis, LD, irradiated, for Neonatal use.** **Commonly known as split packs**	Limited stock item only (HT neg) held at the following stock holding units: • Colindale, Newcastle and Tooting – Group A and O • Birmingham – Group A D pos and D neg and Group O D neg • Liverpool, Leeds, Manchester, Sheffield and Southampton – Group A D neg and Group O D neg • Brentwood – Group A D pos and Group O D neg • Cambridge, Filton, Oxford and Plymouth – Group A D neg only Please request by patient's ABO group, and provide planned transfusion time. If a transfer from another stock holding unit is required, there will be an additional delay.
Platelets for Intrauterine Transfusion (IUT) –hyperconcentrated	By special order only following discussion with NHSBT Consultant. Up to 7days notice required. .If required sooner, please contact NHSBT consultant.
Granulocytes, Pooled, Buffy Coat derived, in Platelet Additive Solution and Plasma, Irradiated	Not held as stock, produced to order on a named patient basis. 24 hours notice is normally required for planned procedures. If required sooner, please contact NHSBT consultant. Not currently available Sunday and Monday and the day following a bank holiday.