

# SAFETY DATA SHEET

According to EC Directive 1907/2006/EC



## 5-Bromo-2'-dU Labeling/Detection Kit II

Version 2.1  
Processing date 06.05.2009

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Printing date 26.02.2010

### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

#### Product information

Commercial Product Name:	5-Bromo-2'-dU Labeling/Detection Kit II	
Mat.-No./ Genisys-No.:	11299964001	
Intended use:	Laboratory use	
Company:	Roche Diagnostics GmbH Sandhoferstrasse 116 68305 Mannheim	
E-mail:	mannheim.umweltschutz@roche.com	
Telephone:	+496217590	
Telefax:	+496217592890	
Responsible Department:	+49(0)621-759-2012 +49(0)621-759-4848 +49(0)8856-60-2629	
In case of emergencies:	Central Works Security Roche Diagnostics GmbH	+49(0)621-759-2203
Centre for detoxification:	Mainz Munich	+49(0)6131-19240 +49(0)89-19240

### 2. HAZARDS IDENTIFICATION

#### Risk advice to man and the environment

Is to be classified according to EEC directive 67/548 and 99/45 as hazardous.

The usual precautions taken when handling chemicals should be observed.

Classification:	Toxic Harmful Irritating
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Warnings:	R61	May cause harm to the unborn child.
	R20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
	R36	Irritating to eyes.
	R43	May cause sensitization by skin contact.

Note:	hazardous to water and ground
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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Components

*BrdU labeling reagent (1000x conc.):* 1 piece(s)

Labelling: not required

Contains no hazardous substances in concentrations to be declared

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Ingredients 0,3 % 5-Bromo-2'-deoxy-uridine; CAS-No. 59-14-3  
Labelling: Xn ; R40; S22-S36/37

*Washing buffer concentrate (10x conc.):* 1 piece(s)

Labelling: Xi; R43; S24-S37

Ingredients >= 0,005 - <= 0,0125 % Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-2H -isothiazol-3-one (3:1); CAS-No. 55965-84-9  
Labelling: T, N ; R23/24/25-R34-R43-R50/53; S26-S28-S36/37/39-S45-S60-S61

*Incubation Buffer:* 1 piece(s)

Labelling: Xi; R43; S24-S37

Ingredients >= 0,001 - <= 0,0025 % Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-2H -isothiazol-3-one (3:1); CAS-No. 55965-84-9  
Labelling: T, N ; R23/24/25-R34-R43-R50/53; S26-S28-S36/37/39-S45-S60-S61

*Anti-BrdU with nucleases:* 1 piece(s)

Labelling: Xi; R43; S24-S37

Ingredients >= 0,001 - <= 0,0025 % Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-2H -isothiazol-3-one (3:1); CAS-No. 55965-84-9  
Labelling: T, N ; R23/24/25-R34-R43-R50/53; S26-S28-S36/37/39-S45-S60-S61

*Anti-mouse Ig-alkaline phosphatase:* 1 piece(s)

Labelling: Xn; R22; S7-S13-S24

Ingredients 0,1 % Sodium azide; CAS-No. 26628-22-8  
Labelling: T+, N ; R28-R32-R50/53; S28-S45-S60-S61

*NBT:* 1 piece(s)

Labelling: T; R61-R20/21-R36; S53-S45

Ingredients 70 % N,N-Dimethylformamide; CAS-No. 68-12-2  
Labelling: T ; R61-R20/21-R36; S53-S45  
7,5 % 4-Nitro blue tetrazolium chloride (NBT); CAS-No. 298-83-9  
Labelling: Xn ; R20/21/22; S26-S36/37/39-S7-S22

*BCIP:* 1 piece(s)

Labelling: T; R61-R20/21-R36; S53-S45

Ingredients > 25 % N,N-Dimethylformamide; CAS-No. 68-12-2  
Labelling: T ; R61-R20/21-R36; S53-S45  
5 % '5-Bromo-4-chloro-3-indolyl-phosphate', toluidine salt; CAS-No. 6578-06-9  
Labelling: Xn ; R20/21/22; S7-S13

#### 4. FIRST AID MEASURES

General advice:	Show this safety data sheet to the doctor in attendance.
Inhalation:	Remove victim to fresh air, seek medical advice.
Skin contact:	Wash skin with water thoroughly or use a shower.
Eye contact:	Promptly wash eyes with water for at least 15 minutes, seek medical advice.

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Ingestion: If accidentally swallowed obtain immediate medical attention.  
Instructions for physician: Symptomatic treatment by a physician.

### 5. FIRE-FIGHTING MEASURES

Extinguishing media: No restriction.  
Decomposition: Dangerous decomposition is not anticipated.

### 6. ACCIDENTAL RELEASE MEASURES

Actions to be taken on spillage: "Wash off small quantities with plenty of water. Absorb larger quantities of spilled substance with fluid binders and dispose of suitably. "  
Absorbent material: No limitations for binding agent.  
Actions to be taken to limit damage: Special measures to limit damage are not necessary.

### 7. HANDLING AND STORAGE

Handling: Combustible substance. Open and handle vessels carefully.  
Storage: at -25~-15°C |-13~ 5°F.  
Do not store together with: Flammable and oxidising substance, organic peroxides.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Washing buffer concentrate (10x conc.)

Limit in air at workplace (ingredients)

Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-2H-isothiazol-3-one (3:1) TLV : 0,2 mg/m<sup>3</sup>  
(l) measured as the inhalable fraction of the aerosol

#### Incubation Buffer

Limit in air at workplace (ingredients)

Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-2H-isothiazol-3-one (3:1) TLV : 0,2 mg/m<sup>3</sup>  
(l) measured as the inhalable fraction of the aerosol

#### Anti-BrdU with nucleases

Limit in air at workplace (ingredients)

Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-2H-isothiazol-3-one (3:1) TLV : 0,2 mg/m<sup>3</sup>  
(l) measured as the inhalable fraction of the aerosol

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### Anti-mouse Ig-alkaline phosphatase

Limit in air at workplace (ingredients)

*Sodium azide*

TLV  
(Germany):

0,2 mg/m<sup>3</sup>  
(l) measured as the  
inhalable fraction of  
the aerosol

TRGS 900  
(Germany):

0,2 mg/m<sup>3</sup>

AGW  
(Italy):

0,3 mg/m<sup>3</sup>

short term

AGW  
(Italy):

0,01 mg/m<sup>3</sup>

8 h

STEL  
(USA):

0,11 ppm  
0,29 mg/m<sup>3</sup>

### NBT

Limit in air at workplace (ingredients)

*N,N-Dimethylformamide*

TLV  
(Germany):

5 ppm  
5 ml/m<sup>3</sup>  
15 mg/m<sup>3</sup>

BAT  
(Germany):

35 mg/l

TRGS 900  
(Germany):

10 ppm  
10 ml/m<sup>3</sup>  
30 mg/m<sup>3</sup>

STEL  
(Germany):

20 ppm  
60 mg/m<sup>3</sup>

(4 x 15 min)

ACGIH-TLV  
(USA):

10 ppm  
30 mg/m<sup>3</sup>

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### BCIP

Limit in air at workplace (ingredients)

<i>N,N</i> -Dimethylformamide	TLV (Germany):	5 ppm 5 ml/m <sup>3</sup> 15 mg/m <sup>3</sup>	
	BAT (Germany):	35 mg/l	
	TRGS 900 (Germany):	10 ppm 10 ml/m <sup>3</sup> 30 mg/m <sup>3</sup>	
	STEL (Germany):	20 ppm 60 mg/m <sup>3</sup>	(4 x 15 min)
	ACGIH-TLV (USA):	10 ppm 30 mg/m <sup>3</sup>	

### Personal protective equipment

Respiratory protection:	Filter A only in the case of a given exposure.
Eye protection:	Protection glasses
Hand protection:	single-use gloves
Hygiene measures:	Wash hands before breaks and at the end of workday.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### *BrdU labeling reagent (1000x conc.)*

Form:	liquid
Miscibility with water:	completely miscible
pH:	7,4

### *Washing buffer concentrate (10x conc.)*

Form:	liquid
Miscibility with water:	completely miscible

### *Incubation Buffer*

Form:	liquid
Miscibility with water:	completely miscible

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### *Anti-BrdU with nucleases*

Form: liquid  
Miscibility with water: completely miscible

### *Anti-mouse Ig-alkaline phosphatase*

Form: liquid  
Miscibility with water: completely miscible

### *NBT*

Form: liquid  
Miscibility with water: completely miscible  
Flash point: 58 °C

### *BCIP*

Form: liquid  
Miscibility with water: completely miscible

## 10. STABILITY AND REACTIVITY

Hazardous reactions: None known when used appropriately.  
Hazardous decomposition products: Only in small concentrations

## 11. TOXICOLOGICAL INFORMATION

### **Anti-mouse Ig-alkaline phosphatase**

#### *Sodium azide*

Oral toxicity: LD50 rat 27 mg/kg  
LD50 mouse 27 mg/kg  
Toxicity (inhalation): LC50 rat 37 mg/m<sup>3</sup>  
LC50 mouse 32400 µg/m<sup>3</sup>  
Toxicity (skin contact): LD50 rabbit 20 mg/kg  
LD50 rat 50 mg/kg  
Toxicity (others): LD50 subcutane rat 45 mg/kg  
LD50 subcutane mouse 23 mg/kg  
LD50 intravenous mouse 19 mg/kg  
LDlo intraperitoneal rat 3 mg/kg  
LD50 intraperitoneal mouse 28 mg/kg

#### **NBT**

#### *N,N-Dimethylformamide*

Oral toxicity: LD50 rat 2.000 mg/kg  
LD50 mouse 2.900 mg/kg  
Toxicity (inhalation): LC50 rat 4 h 1948 ppm (4 h)  
LC50 mouse 2 h 9400 mg/m<sup>3</sup> (2 h)  
Toxicity (skin contact): LD50 rat > 3.200 mg/kg  
LD50 rabbit 4.720 mg/kg  
Toxicity (others): LD50 intraperitoneal rat 4.000 mg/kg  
LD50 intraperitoneal mouse 650 mg/kg  
LD50 intraperitoneal rabbit 1.000 mg/kg  
LD50 intravenous rat 2.000 mg/kg  
LD50 intravenous mouse 2.500 mg/kg

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### *4-Nitro blue tetrazolium chloride (NBT)*

Oral toxicity: LD50 mouse 2.000 mg/kg

### **BCIP**

#### *N,N-Dimethylformamide*

Oral toxicity: LD50 rat 2.000 mg/kg  
LD50 mouse 2.900 mg/kg  
Toxicity (inhalation): LC50 rat 4 h 1948 ppm (4 h)  
LC50 mouse 2 h 9400 mg/m<sup>3</sup> (2 h)  
Toxicity (skin contact): LD50 rat > 3.200 mg/kg  
LD50 rabbit 4.720 mg/kg  
Toxicity (others): LD50 intraperitoneal rat 4.000 mg/kg  
LD50 intraperitoneal mouse 650 mg/kg  
LD50 intraperitoneal rabbit 1.000 mg/kg  
LD50 intravenous rat 2.000 mg/kg  
LD50 intravenous mouse 2.500 mg/kg

### *'5-Bromo-4-chloro-3-indolyl-phosphate', toluidine salt*

Oral toxicity: LD50 rat 2.800 mg/kg  
Toxicity (inhalation): LC50 mouse 2 h 2880 ppm (2 h)  
Toxicity (skin contact): LD50 rat 1.400 mg/kg

### **Toxicological information for the product**

Toxic substance/product.

## 12. ECOLOGICAL INFORMATION

Water hazard class: 2 hazardous to water and ground  
Classification according to German regulations (VwVwS)

### **Anti-mouse Ig-alkaline phosphatase**

#### *Sodium azide*

Toxicity to fish : LC50 Diverse fish 1 - 8 mg/l  
LC50 *Lepomis macrochirus* 0,7 mg/l (96 h)

Toxicity to algae : IC50 Green algae 272 mg/l

Toxicity to bacteria: EC50 *Photobacterium phosphoreum* 43 - 66 mg/l

Toxicity to daphnia: EC50 *Daphnia pulex* 4,2 mg/l (96 h)

### **NBT**

#### *N,N-Dimethylformamide*

Toxicity to fish : LC50 *Pimephales promelas* 10.600 mg/l (4 d)  
LC50 *Lepomis macrochirus* 6.300 mg/l (4 d)  
LC50 Rainbow trout (*Oncorhynchus mykiss*) 9.800 mg/l (4 d)

Toxicity to algae : IC50 *Desmodesmus subspicatus* > 500 mg/l (96 h)

Toxicity to bacteria: EC50 *Photobacterium phosphoreum* 20.000 mg/l (5 min)

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Toxicity to daphnia: EC50 Daphnia magna 15.700 mg/l (48 h)  
Value log P(o/w): -0,85  
Biodegradability: > 90 % 28 d OECD Screening Test  
Additional ecological information (ingredients): Do not allow to get into waste water or surface water.

### *4-Nitro blue tetrazolium chloride (NBT)*

Do not allow to get into waste water or surface water.

### **BCIP**

#### *N,N-Dimethylformamide*

Toxicity to fish :  
LC50 Pimephales promelas 10.600 mg/l (4 d)  
LC50 Lepomis macrochirus 6.300 mg/l (4 d)  
LC50 Rainbow trout (Oncorhynchus mykiss) 9.800 mg/l (4 d)

Toxicity to algae : IC50 Desmodesmus subspicatus > 500 mg/l (96 h)  
Toxicity to bacteria: EC50 Photobacterium phosphoreum 20.000 mg/l (5 min)  
Toxicity to daphnia: EC50 Daphnia magna 15.700 mg/l (48 h)  
Value log P(o/w): -0,85  
Biodegradability: > 90 % 28 d OECD Screening Test  
Additional ecological information (ingredients): Do not allow to get into waste water or surface water.

### 13. DISPOSAL CONSIDERATIONS

Waste disposal route: Generally disposed off as problem waste; disposal as waste water only in accordance with local regulations.

Disposal of empty packaging: Dispose of empty packs via local recycling or waste disposal routes- if necessary, clean them beforehand.

Retail packages of biochemical and diagnostics catalog merchandise are recycled through the acquisition of licenses in "Der Grüne Punkt". Contaminated primary packaging materials of diagnostics catalog merchandise in the sense of § 7 of the Packaging Ordinance are disposed of legally through the company Interseroh.

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### 14. TRANSPORT INFORMATION

**High Consequent Dangerous Goods:** No

#### ADR

UN-No: 2265  
Proper shipping name: N,N-Dimethylformamide  
ADR/RID-Labels: 3  
Packaging group: III  
Classification code: (F1/III)  
Limited Quantities  
(Chapter 3.4): 45,00 L  
Transportation Category  
(Chapter 1.1.3.6.3): 3

#### IMDG

UN-No: 2265  
Proper shipping name: N,N-Dimethylformamide  
ADR/RID-Labels: 3  
Packaging group: III  
EMS : F-ES-D

#### IATA / ICAO Cargo

UN-No: 2265  
Proper shipping name: N,N-Dimethylformamide  
ADR/RID-Labels: 3  
Packaging group: III  
Packing instruction: 310  
Limited Quantities  
(Chapter 2.8): 1,00 L

#### IATA / ICAO Passenger

UN-No: 2265  
Proper shipping name: N,N-Dimethylformamide  
ADR/RID-Labels: 3  
Packaging group: III  
Packing instruction: 309  
Limited Quantities  
(Chapter 2.8): 1,00 L

### 15. REGULATORY INFORMATION

#### Labelling according to EC-Directives

Note: This product must be labeled in accordance with EEC directive 67/548 and 99/45.

Hazard symbol:	T	Toxic
Warnings:	R61	May cause harm to the unborn child.
	R20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
	R36	Irritating to eyes.
	R43	May cause sensitization by skin contact.

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Safety advice:	S53	Avoid exposure - obtain special instructions before use.
	S7	Keep container tightly closed.
	S24	Avoid contact with the skin.
	S37	Wear suitable gloves.
	S45	In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).

### National regulations

German  
BetriebssicherheitsVO: Not subject to German Ordinance on Industrial Health and Safety (formerly Regulations on Flammable Liquids).

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## 16. OTHER INFORMATION

### Further information

The information herein is believed to be correct as of the date hereof but is provided without warranty of any kind. The recipient of our product is responsible for ensuring that, where applicable, existing laws and guidelines are observed.