

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Date of issue: 21.10.2015

Version 1.0

SECTION 1. Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**

Catalogue No. 632519
Product name ReBlot Plus Western Blot Recycling Kit

RE-BLOT PLUS (STRONG) -50ML

REACH Registration Number This product is a mixture. REACH Registration Number see section 3.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses Biochemical research/analysis
For additional information on uses please refer to the Merck Chemicals portal (www.merckgroup.com).

1.3 Details of the supplier of the safety data sheet

Responsible Department EQ-RS * e-mail: prodsafe@merckgroup.com
Regional representation Merck Chemicals Ltd * Boulevard Industrial Park * Padge Road *
Beeston * Nottingham * NG9 2JR * Tel. 01159 430840 *
information@merckchem.co.uk.

1.4 Emergency telephone number +49 (0) 6151 722440

SECTION 2. Hazards identification**2.1 Classification of the substance or mixture****Classification (REGULATION (EC) No 1272/2008)**

Corrosive to metals, Category 1, H290
Acute toxicity, Category 4, Oral, H302
Skin corrosion, Category 1A, H314
Chronic aquatic toxicity, Category 2, H411

For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification (67/548/EEC or 1999/45/EC)

T	Toxic	R25
C	Corrosive	R35
N	Dangerous for the environment	R51/53

For the full text of the R-phrases mentioned in this Section, see Section 16.

SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Catalogue No. 632519
Product name ReBlot Plus Western Blot Recycling Kit
RE-BLOT PLUS (STRONG) -50ML

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms



Signal word

Danger

Hazard statements

H290 May be corrosive to metals.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

Reduced labelling (≤ 125 ml)

Hazard pictograms



Signal word

Danger

Hazard statements

H314 Causes severe skin burns and eye damage.

Precautionary statements

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

Contains: sodium hydroxide, sodium azide

2.3 Other hazards

None known.

SECTION 3. Composition/information on ingredients

Chemical nature Aqueous alkaline solution.

3.1 Substance

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 632519
Product name ReBlot Plus Western Blot Recycling Kit
RE-BLOT PLUS (STRONG) -50ML

Not applicable

3.2 Mixture

Hazardous components (REGULATION (EC) No 1272/2008)

Chemical Name (Concentration)

CAS-No. Registration number Classification

sodium hydroxide ($\geq 10\%$ - $< 20\%$)

PBT/vPvB: Not applicable for inorganic substances

1310-73-2 01-2119457892-27-XXXX

Corrosive to metals, Category 1, H290
Skin corrosion, Category 1A, H314

sodium azide ($\geq 2.5\%$ - $< 7\%$)

26628-22-8 *)

Acute toxicity, Category 2, H300
Acute aquatic toxicity, Category 1, H400
Chronic aquatic toxicity, Category 1, H410

*) A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

For the full text of the H-Statements mentioned in this Section, see Section 16.

Hazardous components (1999/45/EC)

Chemical Name (Concentration)

CAS-No. Classification

sodium hydroxide ($\geq 10\%$ - $< 20\%$)

1310-73-2 C, Corrosive; R35

sodium azide ($\geq 2.5\%$ - $< 7\%$)

26628-22-8 R32
T+, Very toxic; R28
N, Dangerous for the environment; R50/53

For the full text of the R-phrases mentioned in this Section, see Section 16.

SECTION 4. First aid measures

4.1 Description of first aid measures

General advice

First aider needs to protect himself.

After inhalation: fresh air. Call in physician.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician immediately.

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist.

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

4.2 Most important symptoms and effects, both acute and delayed

Irritation and corrosion, Cough, Shortness of breath

Risk of blindness!

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	632519
Product name	ReBlot Plus Western Blot Recycling Kit RE-BLOT PLUS (STRONG) -50ML

collapse, death

4.3 Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Not combustible.

Ambient fire may liberate hazardous vapours.

Fire may cause evolution of:

nitrogen oxides

5.3 Advice for firefighters

Special protective equipment for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent and neutralising material (e.g. Chemizorb® OH⁻, Merck Art. No. 101596). Dispose of properly. Clean up affected area.

Sodium azide and other inorganic azides (including explosive heavy metal azides) can be rendered harmless by spraying with or immersion into a 0.1 N solution of ammonium(IV) nitrate in 2 N perchloric acid.

6.4 Reference to other sections

Indications about waste treatment see section 13.

SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Catalogue No. 632519
Product name ReBlot Plus Western Blot Recycling Kit
RE-BLOT PLUS (STRONG) -50ML

SECTION 7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Observe label precautions.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

No aluminium, tin, or zinc containers.

Storage conditions

Tightly closed.

Recommended storage temperature see product label.

The data applies to the entire pack.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8. Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

Components

Basis	Value	Threshold limits	Remarks
<i>sodium hydroxide (1310-73-2)</i>			
EH40 WEL	Short Term Exposure Limit (STEL):	2 mg/m ³	
<i>sodium azide (26628-22-8)</i>			
EH40 WEL	Time Weighted Average (TWA):	0.1 mg/m ³	Expressed as: as NaN ₃
	Short Term Exposure Limit (STEL):	0.3 mg/m ³	Expressed as: as NaN ₃
	Skin designation:		Can be absorbed through the skin. Expressed as: as NaN ₃
EU ELV	Time Weighted Average (TWA):	0.1 mg/m ³	Indicative
	Short Term Exposure Limit (STEL):	0.3 mg/m ³	Indicative

Derived No Effect Level (DNEL)

sodium hydroxide (1310-73-2)

Worker DNEL, longterm	Local effects	inhalation	1 mg/m ³
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SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Catalogue No. 632519
Product name ReBlot Plus Western Blot Recycling Kit
RE-BLOT PLUS (STRONG) -50ML

Consumer DNEL, Local effects inhalation 1 mg/m³
longterm

Recommended monitoring procedures

Methods for measurement of the workplace atmosphere have to correspond to the requirements of norms DIN EN 482 and DIN EN 689.

Predicted No Effect Concentration (PNEC)

sodium hydroxide (1310-73-2)
PNEC no data available

8.2 Exposure controls

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye/face protection

Tightly fitting safety goggles

Hand protection

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0.11 mm
Break through time:	> 10 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (splash contact).

This recommendation applies only to the product stated in the safety data sheet (>,<) supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Other protective equipment

protective clothing

Respiratory protection

required when vapours/aerosols are generated.

Recommended Filter type: filter ABEK

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Environmental exposure controls

Do not let product enter drains.

SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Catalogue No. 632519
Product name ReBlot Plus Western Blot Recycling Kit
RE-BLOT PLUS (STRONG) -50ML

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	liquid
Colour	clear colourless
Odour	No strong odour known.
Odour Threshold	No information available.
pH	No information available.
Melting point	No information available.
Boiling point	No information available.
Flash point	No information available.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	No information available.
Relative vapour density	No information available.
Density	No information available.
Relative density	No information available.
Water solubility	at 20 °C soluble
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

9.2 Other data

SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Catalogue No. 632519
Product name ReBlot Plus Western Blot Recycling Kit
RE-BLOT PLUS (STRONG) -50ML

Corrosion May be corrosive to metals.

SECTION 10. Stability and reactivity

10.1 Reactivity

See section 10.3

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Risk of explosion with:

Heavy metals, Bromine, dimethylsulfate, Acid, dichloromethane, carbon disulfide, sulphuric acid, Halogenated hydrocarbon, Copper, Lead, chromyl chloride

Risk of ignition or formation of inflammable gases or vapours with:

Metals, Light metals

Possible formation of:

Hydrogen

Violent reactions possible with:

ammonium compounds, Cyanides, organic nitro compounds, organic combustible substances, phenols, powdered alkaline earth metals, acids, Nitriles, magnesium

10.4 Conditions to avoid

no information available

10.5 Incompatible materials

Aluminium, various plastics, brass, metal alloys, Zinc, Tin, Light metals, glass, quartzes/silicate ceramics, animal/vegetable tissues

Metals

10.6 Hazardous decomposition products

in the event of fire: See section 5.

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Mixture

Acute oral toxicity

Acute toxicity estimate: 457.63 mg/kg

Calculation method

absorption

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.

Acute inhalation toxicity

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:., damage of respiratory tract

Acute dermal toxicity

This information is not available.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 632519
Product name ReBlot Plus Western Blot Recycling Kit
RE-BLOT PLUS (STRONG) -50ML

Skin irritation

Mixture causes severe burns.

Eye irritation

Mixture causes serious eye damage. Risk of blindness! Necrosis

Sensitisation

This information is not available.

Germ cell mutagenicity

This information is not available.

Carcinogenicity

This information is not available.

Reproductive toxicity

This information is not available.

Teratogenicity

This information is not available.

Specific target organ toxicity - single exposure

This information is not available.

Specific target organ toxicity - repeated exposure

This information is not available.

Aspiration hazard

This information is not available.

11.2 Further information

Systemic effects:

collapse, death

Sodium azide: after inhalation of dusts/aerosols: severe irritations of: mucous membranes, respiratory tract. Possible damages: pulmonary oedema. Latency time until onset of action. After skin contact: slight irritations. Danger of skin absorption. After eye contact: slight irritations. After swallowing: irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract. Systemic effects: CNS disorders, cardiovascular failure, tachycardia, drop in blood pressure, coughing, dyspnoea, spasms, headache, dizziness, nausea, vomiting, collapse, unconsciousness.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Components

sodium hydroxide

Skin irritation

Rabbit

Result: Causes burns.

(External MSDS)

Eye irritation

Rabbit

Result: Irreversible effects on the eye

(ECHA)

Sensitisation

Patch test: human

Result: Does not cause skin sensitisation.

(ECHA)

Germ cell mutagenicity

SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Catalogue No. 632519
Product name ReBlot Plus Western Blot Recycling Kit
RE-BLOT PLUS (STRONG) -50ML

Genotoxicity in vitro
Mutagenicity (mammal cell test): micronucleus.
Result: negative
(Lit.)

Ames test
Result: negative
(IUCLID)

sodium azide

Acute oral toxicity
LD50 Rat: 27 mg/kg (RTECS)

Acute inhalation toxicity
LC50 Rat: 37.0 mg/l(External MSDS)

Skin irritation
In vitro study
Result: No skin irritation
Human Skin Model Test

Eye irritation
In vitro study
Result: No eye irritation
OECD Test Guideline 437

Sensitisation
Sensitisation test: Mouse
Result: negative
Method: OECD Test Guideline 429

SECTION 12. Ecological information

Mixture

12.1 Toxicity

No information available.

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects

Discharge into the environment must be avoided.

Components

sodium hydroxide

Toxicity to fish
LC50 *Gambusia affinis* (Mosquito fish): 125 mg/l; 96 h (External MSDS)

Toxicity to daphnia and other aquatic invertebrates
EC50 *Ceriodaphnia* (water flea): 40.4 mg/l; 48 h (ECHA)

Toxicity to bacteria
EC50 *Photobacterium phosphoreum*: 22 mg/l; 15 min (External MSDS)

SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Catalogue No. 632519
Product name ReBlot Plus Western Blot Recycling Kit
RE-BLOT PLUS (STRONG) -50ML

Biodegradability

The methods for determining the biological degradability are not applicable to inorganic substances.

PBT/vPvB: Not applicable for inorganic substances

sodium azide

Toxicity to fish

LC50 *Lepomis macrochirus* (Bluegill sunfish): 0.7 mg/l; 96 h (ECOTOX Database)

Toxicity to daphnia and other aquatic invertebrates

EC50 *Daphnia pulex* (Water flea): 4.2 mg/l; 48 h (ECOTOX Database)

Toxicity to algae

IC50 mixed culture of green algae: 272 mg/l(Lit.)

Toxicity to bacteria

EC50 *Photobacterium phosphoreum*: 38.5 mg/l(Lit.)

SECTION 13. Disposal considerations

Waste treatment methods

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

Notice Directive on waste 2008/98/EC.

14. Transport information

Land transport (ADR/RID)

14.1 UN number	UN 1824
14.2 Proper shipping name	SODIUM HYDROXIDE SOLUTION
14.3 Class	8
14.4 Packing group	II
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
Tunnel restriction code	E

Inland waterway transport (ADN)

Not relevant

Air transport (IATA)

SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Catalogue No. 632519
Product name ReBlot Plus Western Blot Recycling Kit
RE-BLOT PLUS (STRONG) -50ML

14.1 UN number UN 1824
14.2 Proper shipping name SODIUM HYDROXIDE SOLUTION
14.3 Class 8
14.4 Packing group II
14.5 Environmentally hazardous --
14.6 Special precautions for user no

Sea transport (IMDG)

14.1 UN number UN 1824
14.2 Proper shipping name SODIUM HYDROXIDE SOLUTION
14.3 Class 8
14.4 Packing group II
14.5 Environmentally hazardous --
14.6 Special precautions for user yes
EmS F-A S-B
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not relevant

THIS TRANSPORT DATA APPLIES TO THE ENTIRE PACK!

SECTION 15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulations

Major Accident Hazard 96/82/EC
Legislation Toxic
2
Quantity 1: 50 t
Quantity 2: 200 t

96/82/EC
Dangerous for the environment
9b
Quantity 1: 200 t
Quantity 2: 500 t

SEVESO III
ENVIRONMENTAL HAZARDS
E2
Quantity 1: 200 t
Quantity 2: 500 t

Occupational restrictions Take note of Dir 94/33/EC on the protection of young people at work. Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

National legislation

Storage class 8B
The data applies to the entire pack.

SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Catalogue No. 632519
Product name ReBlot Plus Western Blot Recycling Kit
RE-BLOT PLUS (STRONG) -50ML

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

SECTION 16. Other information

Full text of H-Statements referred to under sections 2 and 3.

H290 May be corrosive to metals.
H300 Fatal if swallowed.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.

Full text of R-phrases referred to under sections 2 and 3

R25 Toxic if swallowed.
R28 Very toxic if swallowed.
R32 Contact with acids liberates very toxic gas.
R35 Causes severe burns.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Training advice

Provide adequate information, instruction and training for operators.

Labelling

Hazard pictograms



Signal word

Danger

Hazard statements

H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response



P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

SAFETY DATA SHEET



according to Regulation (EC) No. 1907/2006

Catalogue No. 632519
Product name ReBlot Plus Western Blot Recycling Kit
RE-BLOT PLUS (STRONG) -50ML

Labelling (67/548/EEC or 1999/45/EC)

Symbol(s)	 T  N	Toxic Dangerous for the environment
R-phrased(s)	25-35-51/53	Toxic if swallowed. Causes severe burns. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S-phrased(s)	26-36/37/39-45-61	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Avoid release to the environment. Refer to special instructions/ Safety data sheets.

Reduced labelling (≤125 ml)

Symbol(s)	 T  N	Toxic Dangerous for the environment
R-phrased(s)	25-35	Toxic if swallowed. Causes severe burns.
S-phrased(s)	26-36/37/39-45	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Contains: sodium hydroxide, sodium azide

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Millipore Ref. 2500

The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Date of issue: 21.10.2015

Version 1.0

SECTION 1. Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**

Catalogue No. 632519
Product name ReBlot Plus Western Blot Recycling Kit

RE-BLOT PLUS (MILD) -50ML

REACH Registration Number This product is a mixture. REACH Registration Number see section 3.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses Biochemical research/analysis
For additional information on uses please refer to the Merck Chemicals portal (www.merckgroup.com).

1.3 Details of the supplier of the safety data sheet

Responsible Department EQ-RS * e-mail: prodsafe@merckgroup.com
Regional representation Merck Chemicals Ltd * Boulevard Industrial Park * Padge Road *
Beeston * Nottingham * NG9 2JR * Tel. 01159 430840 *
information@merckchem.co.uk.

1.4 Emergency telephone number +49 (0) 6151 722440

SECTION 2. Hazards identification**2.1 Classification of the substance or mixture****Classification (REGULATION (EC) No 1272/2008)**

Corrosive to metals, Category 1, H290
Acute toxicity, Category 4, Oral, H302
Skin corrosion, Category 1A, H314
Chronic aquatic toxicity, Category 2, H411

For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification (67/548/EEC or 1999/45/EC)

T	Toxic	R25
C	Corrosive	R35
N	Dangerous for the environment	R51/53

For the full text of the R-phrases mentioned in this Section, see Section 16.

SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Catalogue No. 632519
Product name ReBlot Plus Western Blot Recycling Kit
RE-BLOT PLUS (MILD) -50ML

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms



Signal word

Danger

Hazard statements

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P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

Reduced labelling (≤ 125 ml)

Hazard pictograms



Signal word

Danger

Hazard statements

H314 Causes severe skin burns and eye damage.

Precautionary statements

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

Contains: sodium hydroxide, sodium azide

2.3 Other hazards

None known.

SECTION 3. Composition/information on ingredients

Chemical nature

Aqueous solution of inorganic and organic compounds.

3.1 Substance

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 632519
Product name ReBlot Plus Western Blot Recycling Kit
RE-BLOT PLUS (MILD) -50ML

Not applicable

3.2 Mixture

Hazardous components (REGULATION (EC) No 1272/2008)

Chemical Name (Concentration)

CAS-No.	Registration number	Classification
sodium hydroxide ($\geq 5\%$ - $< 10\%$) <i>PBT/vPvB: Not applicable for inorganic substances</i>		
1310-73-2	01-2119457892-27-XXXX	Corrosive to metals, Category 1, H290 Skin corrosion, Category 1A, H314
sodium azide ($\geq 2.5\%$ - $< 7\%$)		
26628-22-8	*	Acute toxicity, Category 2, H300 Acute aquatic toxicity, Category 1, H400 Chronic aquatic toxicity, Category 1, H410

*) A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

For the full text of the H-Statements mentioned in this Section, see Section 16.

Hazardous components (1999/45/EC)

Chemical Name (Concentration)

CAS-No.	Classification
sodium hydroxide ($\geq 5\%$ - $< 10\%$)	
1310-73-2	C, Corrosive; R35
sodium azide ($\geq 2.5\%$ - $< 7\%$)	
26628-22-8	R32 T+, Very toxic; R28 N, Dangerous for the environment; R50/53

For the full text of the R-phrases mentioned in this Section, see Section 16.

SECTION 4. First aid measures

4.1 Description of first aid measures

General advice

First aider needs to protect himself.

After inhalation: fresh air. Call in physician.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician immediately.

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist.

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

4.2 Most important symptoms and effects, both acute and delayed

Irritation and corrosion, Cough, Shortness of breath, collapse, death
Risk of blindness!

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	632519
Product name	ReBlot Plus Western Blot Recycling Kit RE-BLOT PLUS (MILD) -50ML

4.3 Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Not combustible.

Ambient fire may liberate hazardous vapours.

Fire may cause evolution of:

nitrogen oxides

5.3 Advice for firefighters

Special protective equipment for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent and neutralising material (e.g. Chemizorb® OH⁻, Merck Art. No. 101596). Dispose of properly. Clean up affected area.

Sodium azide and other inorganic azides (including explosive heavy metal azides) can be rendered harmless by spraying with or immersion into a 0.1 N solution of ammonium(IV) nitrate in 2 N perchloric acid.

6.4 Reference to other sections

Indications about waste treatment see section 13.

SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Catalogue No. 632519
Product name ReBlot Plus Western Blot Recycling Kit
RE-BLOT PLUS (MILD) -50ML

SECTION 7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Observe label precautions.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

No aluminium, tin, or zinc containers.

Storage conditions

Tightly closed.

Recommended storage temperature see product label.

The data applies to the entire pack.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8. Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

Components

Basis	Value	Threshold limits	Remarks
<i>sodium hydroxide (1310-73-2)</i>			
EH40 WEL	Short Term Exposure Limit (STEL):	2 mg/m ³	
<i>sodium azide (26628-22-8)</i>			
EH40 WEL	Time Weighted Average (TWA):	0.1 mg/m ³	Expressed as: as NaN ₃
	Short Term Exposure Limit (STEL):	0.3 mg/m ³	Expressed as: as NaN ₃
	Skin designation:		Can be absorbed through the skin. Expressed as: as NaN ₃
EU ELV	Time Weighted Average (TWA):	0.1 mg/m ³	Indicative
	Short Term Exposure Limit (STEL):	0.3 mg/m ³	Indicative

Derived No Effect Level (DNEL)

sodium hydroxide (1310-73-2)

Worker DNEL, longterm, Local effects, inhalation, 1 mg/m³

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 632519
Product name ReBlot Plus Western Blot Recycling Kit
RE-BLOT PLUS (MILD) -50ML

Consumer DNEL, Local effects inhalation 1 mg/m³
longterm

Recommended monitoring procedures

Methods for measurement of the workplace atmosphere have to correspond to the requirements of norms DIN EN 482 and DIN EN 689.

Predicted No Effect Concentration (PNEC)

sodium hydroxide (1310-73-2)

PNEC no data available

8.2 Exposure controls

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye/face protection

Tightly fitting safety goggles

Hand protection

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0.11 mm
Break through time:	> 10 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (splash contact).

This recommendation applies only to the product stated in the safety data sheet (>,<) supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Other protective equipment

protective clothing

Respiratory protection

required when vapours/aerosols are generated.

Recommended Filter type: filter ABEK

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Environmental exposure controls

Do not let product enter drains.

SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Catalogue No. 632519
Product name ReBlot Plus Western Blot Recycling Kit
RE-BLOT PLUS (MILD) -50ML

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	liquid
Colour	clear colourless
Odour	No strong odour known.
Odour Threshold	No information available.
pH	> 12
Melting point	No information available.
Boiling point	No information available.
Flash point	Not applicable
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	No information available.
Relative vapour density	No information available.
Density	No information available.
Relative density	No information available.
Water solubility	soluble
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

9.2 Other data

SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Catalogue No. 632519
Product name ReBlot Plus Western Blot Recycling Kit
RE-BLOT PLUS (MILD) -50ML

Corrosion May be corrosive to metals.

SECTION 10. Stability and reactivity

10.1 Reactivity

See section 10.3

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Risk of explosion with:

Heavy metals, Bromine, dimethylsulfate, Acid, dichloromethane, carbon disulfide, sulphuric acid, Halogenated hydrocarbon, Copper, Lead, chromyl chloride

Risk of ignition or formation of inflammable gases or vapours with:

Metals, Light metals

Possible formation of:

Hydrogen

Violent reactions possible with:

ammonium compounds, Cyanides, organic nitro compounds, organic combustible substances, phenols, powdered alkaline earth metals, acids, Nitriles, magnesium

10.4 Conditions to avoid

no information available

10.5 Incompatible materials

Metals

Aluminium, various plastics, brass, metal alloys, Zinc, Tin, Light metals, glass, quartzes/silicate ceramics, animal/vegetable tissues

10.6 Hazardous decomposition products

in the event of fire: See section 5.

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Mixture

Acute oral toxicity

absorption

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.

Acute toxicity estimate: 540 mg/kg

Calculation method

Acute inhalation toxicity

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:., damage of respiratory tract

Acute dermal toxicity

This information is not available.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 632519
Product name ReBlot Plus Western Blot Recycling Kit
RE-BLOT PLUS (MILD) -50ML

Skin irritation

Mixture causes severe burns.

Eye irritation

Mixture causes serious eye damage. Risk of blindness! Necrosis

Sensitisation

This information is not available.

Germ cell mutagenicity

This information is not available.

Carcinogenicity

This information is not available.

Reproductive toxicity

This information is not available.

Teratogenicity

This information is not available.

Specific target organ toxicity - single exposure

This information is not available.

Specific target organ toxicity - repeated exposure

This information is not available.

Aspiration hazard

This information is not available.

11.2 Further information

Systemic effects:

collapse, death

Sodium azide: after inhalation of dusts/aerosols: severe irritations of: mucous membranes, respiratory tract. Possible damages: pulmonary oedema. Latency time until onset of action. After skin contact: slight irritations. Danger of skin absorption. After eye contact: slight irritations. After swallowing: irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract. Systemic effects: CNS disorders, cardiovascular failure, tachycardia, drop in blood pressure, coughing, dyspnoea, spasms, headache, dizziness, nausea, vomiting, collapse, unconsciousness.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Components

sodium hydroxide

Skin irritation

Rabbit

Result: Causes burns.

(External MSDS)

Eye irritation

Rabbit

Result: Irreversible effects on the eye

(ECHA)

Sensitisation

Patch test: human

Result: Does not cause skin sensitisation.

(ECHA)

Germ cell mutagenicity

SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Catalogue No. 632519
Product name ReBlot Plus Western Blot Recycling Kit
RE-BLOT PLUS (MILD) -50ML

Genotoxicity in vitro
Mutagenicity (mammal cell test): micronucleus.
Result: negative
(Lit.)

Ames test
Result: negative
(IUCLID)

sodium azide

Acute oral toxicity
LD50 Rat: 27 mg/kg (RTECS)

Acute inhalation toxicity
LC50 Rat: 37.0 mg/l(External MSDS)

Skin irritation
In vitro study
Result: No skin irritation
Human Skin Model Test

Eye irritation
In vitro study
Result: No eye irritation
OECD Test Guideline 437

Sensitisation
Sensitisation test: Mouse
Result: negative
Method: OECD Test Guideline 429

SECTION 12. Ecological information

Mixture

12.1 Toxicity

No information available.

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects

Discharge into the environment must be avoided.

Components

sodium hydroxide

Toxicity to fish
LC50 *Gambusia affinis* (Mosquito fish): 125 mg/l; 96 h (External MSDS)

Toxicity to daphnia and other aquatic invertebrates
EC50 *Ceriodaphnia* (water flea): 40.4 mg/l; 48 h (ECHA)

Toxicity to bacteria
EC50 *Photobacterium phosphoreum*: 22 mg/l; 15 min (External MSDS)

SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Catalogue No. 632519
Product name ReBlot Plus Western Blot Recycling Kit
RE-BLOT PLUS (MILD) -50ML

Biodegradability

The methods for determining the biological degradability are not applicable to inorganic substances.

PBT/vPvB: Not applicable for inorganic substances

sodium azide

Toxicity to fish

LC50 *Lepomis macrochirus* (Bluegill sunfish): 0.7 mg/l; 96 h (ECOTOX Database)

Toxicity to daphnia and other aquatic invertebrates

EC50 *Daphnia pulex* (Water flea): 4.2 mg/l; 48 h (ECOTOX Database)

Toxicity to algae

IC50 mixed culture of green algae: 272 mg/l(Lit.)

Toxicity to bacteria

EC50 *Photobacterium phosphoreum*: 38.5 mg/l(Lit.)

SECTION 13. Disposal considerations

Waste treatment methods

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

Notice Directive on waste 2008/98/EC.

14. Transport information

Land transport (ADR/RID)

14.1 UN number	UN 1824
14.2 Proper shipping name	SODIUM HYDROXIDE SOLUTION
14.3 Class	8
14.4 Packing group	II
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
Tunnel restriction code	E

Inland waterway transport (ADN)

Not relevant

Air transport (IATA)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 632519
Product name ReBlot Plus Western Blot Recycling Kit
RE-BLOT PLUS (MILD) -50ML

14.1 UN number UN 1824
14.2 Proper shipping name SODIUM HYDROXIDE SOLUTION
14.3 Class 8
14.4 Packing group II
14.5 Environmentally hazardous --
14.6 Special precautions for user no

Sea transport (IMDG)

14.1 UN number UN 1824
14.2 Proper shipping name SODIUM HYDROXIDE SOLUTION
14.3 Class 8
14.4 Packing group II
14.5 Environmentally hazardous --
14.6 Special precautions for user yes
EmS F-A S-B
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not relevant

THIS TRANSPORT DATA APPLIES TO THE ENTIRE PACK!

SECTION 15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulations

Major Accident Hazard SEVESO III
Legislation ENVIRONMENTAL HAZARDS
E2
Quantity 1: 200 t
Quantity 2: 500 t

96/82/EC

Toxic
2
Quantity 1: 50 t
Quantity 2: 200 t

96/82/EC

Dangerous for the environment
9b
Quantity 1: 200 t
Quantity 2: 500 t

Occupational restrictions Take note of Dir 94/33/EC on the protection of young people at work. Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

National legislation

Storage class 8B

The data applies to the entire pack.

SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Catalogue No. 632519
Product name ReBlot Plus Western Blot Recycling Kit
RE-BLOT PLUS (MILD) -50ML

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

SECTION 16. Other information

Full text of H-Statements referred to under sections 2 and 3.

H290	May be corrosive to metals.
H300	Fatal if swallowed.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

Full text of R-phrases referred to under sections 2 and 3

R25	Toxic if swallowed.
R28	Very toxic if swallowed.
R32	Contact with acids liberates very toxic gas.
R35	Causes severe burns.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Training advice

Provide adequate information, instruction and training for operators.

Labelling

Hazard pictograms



Signal word

Danger

Hazard statements

H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response



P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

SAFETY DATA SHEET



according to Regulation (EC) No. 1907/2006

Catalogue No. 632519
Product name ReBlot Plus Western Blot Recycling Kit
RE-BLOT PLUS (MILD) -50ML

Labelling (67/548/EEC or 1999/45/EC)

Symbol(s)	 T  N	Toxic Dangerous for the environment
R-phrase(s)	25-35-51/53	Toxic if swallowed. Causes severe burns. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S-phrase(s)	26-36/37/39-45-61	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Avoid release to the environment. Refer to special instructions/ Safety data sheets.

Reduced labelling (≤125 ml)

Symbol(s)	 T  N	Toxic Dangerous for the environment
R-phrase(s)	25-35	Toxic if swallowed. Causes severe burns.
S-phrase(s)	26-36/37/39-45	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Contains: sodium hydroxide, sodium azide

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Millipore Ref. 2500

The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.