SAFETY DATA SHEET

NH DyeAGNOSTICS

According to **COMMISSION REGULATION (EU) No 830/2015**
Version 2. Revision Date 11/18 (Update according to Commission Regulation (EU) No 830/2015)
Print Date **January 16, 2019**

1. Identification of the Substance/ Mixture and of the Company

1.1 Product identifiers

Product name: **Immuno Blue Western Blotting Substrate (containing Immuno Blue Reagent A and B)**

REACH no.: A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

Identified uses: Laboratory chemicals; for research use only; not for consumer use

1.3 Details of supplier of the safety data sheet

Company: NH DyeAGNOSTICS GmbH
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D-06120 Halle
Germany

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2. Hazards Identification

Classification according to Regulation (EC) No 1272/2008 (CLP)	*Immuno Blue Reagent A*	*Immuno Blue Reagent B*	
Physical hazard	Not classified	Flammable liquids	Category 2
Health hazard	Not classified	Serious eye damage/eye irritation	Category 2
		Carcinogenicity	Category 2
		Specific target organ toxicity (single exposure)	Category 3
Environmental hazard	Not classified	Not classified	
Additional Information	Not applicable	No information available	

Labeling according to Regulation (EC) No 1272/2008 (CLP)	Immuno Blue Reagent A	Immuno Blue Reagent B
Hazard pictogram	No pictogram	
Signal word	None	Danger
Hazard Statements	Not applicable	H225 - Highly flammable liquid and vapour H319 - Causes serious eye irritation H351 - Suspected of causing cancer

		H335 - May cause respiratory irritation
EU specific Hazard Statements	Not applicable	Not applicable

Precautionary statements	*Immuno Blue Reagent A*	*Immuno Blue Reagent B*
Prevention	Not applicable	P201 - Obtain special instructions before use P280 - Wear protective gloves/protective clothing/eye protection/face protection P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking P241 - Use explosion-proof electrical/ ventilating/ lighting/ equipment
Response	Not applicable	P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Storage	Not applicable	P403 + P235 - Store in a well-ventilated place. Keep cool
Disposal	Not applicable	Not applicable

Other hazardous	*Immuno Blue Reagent A*	*Immuno Blue Reagent B*
	Not applicable	Not applicable

3. Composition/ Information on Ingredients

3.1 Immuno Blue Reagent A

The product contains no substances which at their given concentration, are considered to be hazardous to health.

3.2 Immuno Blue Reagent B

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component		Classification	Concentration
Ethyl alcohol			
CAS-No.	64-17-5	Flam. Liq. 2 - H225 Eye Dam. 2 - H319	45-65 Weight percent
EC-No.	200-578-6		
Reach registration No.	-		

Component		Classification	Concentration
1,4-Dioxane			
CAS-No.	123-91-1	-	45-65 Weight percent
EC-No.	200-661-8		
Reach registration No.	-		

4. First Aid Measures

	Immuno Blue Reagent A	*Immuno Blue Reagent B*
Skin contact	Rinse with plenty of water. Immediate medical attention is not	Wash off immediately with plenty of water for at least 15 minutes.

	required.	Remove and wash contaminated clothing and gloves, including the inside, before re-use. Immediate medical attention is required.
Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.
Ingestion	Not expected to present a significant ingestion hazard under anticipated conditions of normal use. If you feel unwell, seek medical advice.	Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice. Get medical attention if symptoms occur.
Inhalation	Not expected to be an inhalation hazard under anticipated conditions of normal use of this material. Consult a physician if necessary.	Remove to fresh air. If not breathing, give artificial respiration. If symptoms persist, call a doctor.
Notes to physician	Treat symptomatically.	Treat symptomatically.
Most important symptoms and effects, both acute and delayed	-	-
Indication of any immediate medical attention and special treatment needed	None.	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.

5. Fire-Fighting Measures

		Immuno Blue Reagent A	*Immuno Blue Reagent B*
Extinguishing media	**Suitable extinguishing media**	Water spray. Carbon dioxide (CO2). Foam. Dry chemical.	Dry chemical. Alcohol resistant foam. Water spray. Carbon dioxide (CO2).
	Unsuitable extinguishing media	No information available.	No information available.
Special hazards arising from the substance or mixture		Not known	Not known
Advice for fire-fighters		Standard procedure for chemical fires	Wear self-contained breathing apparatus and protective suit

6. Accidental Release Measures

	Immuno Blue Reagent A	*Immuno Blue Reagent B*
Personal precautions, protective equipment and emergency procedures	Ensure adequate ventilation. Always wear recommended Personal Protective Equipment. Use personal protection equipment. See Section 8 for more detail.	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Avoid breathing vapours or mists. Use non-sparking tools and equipment. Ensure adequate ventilation. Use personal protection equipment. See Section 8 for more detail.
Environmental precautions	No special environmental precautions required.	No special environmental precautions required. Avoid discharge into drains and waterways whenever possible.
Methods and material for	Soak up with inert absorbent	*Small spillage*: Allow to evaporate.

containment and cleaning up	material.	Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Ventilate the area. *Large spillage*: Dyke for later disposal and cover with wet sand or earth. Immediately contact emergency personell.
Reference to other sections	See section 8 for more information.	See section 8 for more information.

7. Handling and Storrage

	Immuno Blue Reagent A	*Immuno Blue Reagent B*
Precautions for safe handling	Use personal protective equipment as required. No special handling advices are necessary.	Always wear recommended Personal Protective Equipment. Avoid contact with eyes, skin and clothing. Do not breathe vapors. When using do not smoke, eat or drink. Ground and bond containers when transferring material. See Section 8 for more detail.
Conditions for safe storage, including any incompatibilities	Keep in a dry, cool and well-ventilated place. Keep in properly labelled containers.	Keep in a dry, cool and well-ventilated place. Keep container tightly closed. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep in properly labelled containers. Store in accordance with local regulations.
Specific end use(s)	For research use only.	For research use only.

8. Exposure Controls/ Personal Protection

8.1 Immuno Blue Reagent A

Control Parameters	
Exposure Limits	Contains no substances with occupational exposure limit values.
Engineering measures	Ensure adequate ventilation, especially in confined areas.

Exposure Controls	
Personal protection equipment	
Respiratory protection	In case of insufficient ventilation wear respirators and components tested and approved under appropriate government standards.
Hand protection	Wear suitable gloves. Glove material: Compatible chemical-resistant gloves.
Eye protection	Tight sealing safety goggles.
Skin and Body Protection	Wear suitable protective clothing.
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice.
Environmental exposure controls	No special environmental precautions required.

8.1 Immuno Blue Reagent B

Control Parameters

Chemical Name	EU OEL (TWA)	EU OEL (STEL)	EU Skin Notation
Ethyl alcohol 64-17-5	None	None	None
1,4-Dioxane 123-91-1	None	None	None

Chemical Name	Austria	Belgium (TWA)	Denmark (TWA)	Finland OEL (TWA)
Ethyl alcohol 64-17-5	1000 ppm 1900 mg/m³	1000 ppm 1907 mg/m³	1000 ppm 1900 mg/m³	1000 ppm 1900 mg/m³
1,4-Dioxane 123-91-1	20 ppm 73 mg/m³	20 ppm 73 mg/m³	10 ppm 36 mg/m³	25 ppm 91 mg/m³

Chemical Name	France OEL (VME)	Germany OEL (TWA)	Ireland (TWA)	Italy OEL (TWA)
Ethyl alcohol 64-17-5	1000 ppm 1900 mg/m³	500 ppm exposure factor 2 960 mg/m³ exposure factor 2	None	None
1,4-Dioxane 123-91-1	20 ppm 73 mg/m³	20 ppm exposure factor 2 73 mg/m³ exposure factor 2	20 ppm 73 mg/m³	20 ppm 73 mg/m³

Chemical Name	Sweden - Occupational Exposure Limits - TLVs (LLVs)	Netherlands OEL (MAC)	Spain OEL (TWA)	United Kingdom
Ethyl alcohol 64-17-5	500 ppm TLV NGV; 1000 mg/m³ TLV NGV	260 mg/m³	None	1000 ppm TWA; 1920 mg/m³ TWA
1,4-Dioxane 123-91-1	10 ppm TLV NGV; 35 mg/m³ TLV NGV	20 mg/m³	20 ppm 73 mg/m³	20 ppm TWA; 73 mg/m³ TWA

Chemical Name	European Union	France OEL (VME)	Germany OEL (TWA)
Ethyl alcohol 64-17-5	None	1000 ppm 1900 mg/m³	500 ppm exposure factor 2 960 mg/m³ exposure factor 2
1,4-Dioxane 123-91-1	None	20 ppm 73 mg/m³	20 ppm exposure factor 2 73 mg/m³ exposure factor 2

Chemical Name	Italy OEL (TWA)	Portugal	Netherlands OEL (MAC)	Finland OEL (TWA)
Ethyl alcohol 64-17-5	None	None	260 mg/m³	1000 ppm 1900 mg/m³
1,4-Dioxane 123-91-1	20 ppm 73 mg/m³	None	20 mg/m³	25 ppm 91 mg/m³

Chemical Name	Austria	Denmark	Poland	Switzerland
Ethyl alcohol 64-17-5	1000 ppm 1900 mg/m³	None	None	None
1,4-Dioxane 123-91-1	20 ppm 73 mg/m³	None	None	None

Chemical Name	Ireland	Norway	Lithuania OEL (TWA)	Spain OEL (TWA)
Ethyl alcohol 64-17-5	None	None	500 ppm 1000 mg/m³	None
1,4-Dioxane 123-91-1	None	None	10 ppm 35 mg/m³	20 ppm 73 mg/m³

Exposure Controls	
Personal protection equipment	
Respiratory protection	In case of insufficient ventilation wear respirators and components tested and approved under appropriate government standards.
Hand protection	Glove material: Nitrile rubber with thickness (mm): 0.5; Break through time (hours): <1. Recommended glove type has not been tested for use with this product. Information is based on professional knowledge.
Eye protection	Tight sealing safety goggles.
Skin and Body Protection	Wear laboratory coat for body protection.
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice.
Environmental exposure controls	No special environmental precautions required.

9. Physical and Chemical Properties

Appearance

	Immuno Blue Reagents A	**Immuno Blue Reagents B**
Form	liquid	liquid
Colour	clear	clear
Odour	No data available	No data available

Safety Data

	Immuno Blue Reagents A	**Immuno Blue Reagents B**
pH	7.9 – 8.1	Mixture has not been tested
Melting point	Mixture has not been tested	Mixture has not been tested
Boiling point	100°C	Mixture has not been tested
Flash point	Mixture has not been tested	Mixture has not been tested
Ignition temperature	Mixture has not been tested	Mixture has not been tested
Lower explosion limit	Mixture has not been tested	Mixture has not been tested
Upper explosion limit	Mixture has not been tested	Mixture has not been tested

10. Stability and Reactivity

	Immuno Blue Reagent A	*Immuno Blue Reagent B*
Reactivity	None known.	None known.
Chemical stability	Stable under normal conditions.	Stable under normal conditions.
Possibility of hazardous reactions	Hazardous reaction has not been reported.	Hazardous reaction has not been reported.
Conditions to avoid	No information available.	High temperature. Proximity to sources of ignition.
Incompatible materials	No dangerous reaction known under conditions of normal use.	oxidizing agents. Acids. Bases.
Hazardous decomposition products	No data available.	No known hazardous decomposition products.

11. Toxicological Information

Information on toxicological effects	*Immuno Blue Reagent A*	*Immuno Blue Reagent B*	
Chemical name	There is no evidence available indicating acute toxicity.	Ethyl alcohol	1,4-Dioxane
LD50 (oral,rat/mouse)		= 7060 mg/kg (Rat)	= 4200 mg/kg (Rat) = 5170 mg/kg (Rat)
LD50 (dermal,rat/rabbit)		No data available	No data available
LC50 (inhalation,rat/mouse)		= 124.7mg/L (Rat)	= 46mg/L (Rat)

Principal Routes of Exposure	*Immuno Blue Reagent A*	*Immuno Blue Reagent B*
Irritation	Conclusive but not sufficient for classification	Skin irritation, Irritating to eyes
Corrosivity	Conclusive but not sufficient for classification	Conclusive but not sufficient for classification
Sensitisation	Conclusive but not sufficient for classification	Conclusive but not sufficient for classification
STOT - Single Exposure	Conclusive but not sufficient for classification	Conclusive but not sufficient for classification
STOT - Repeated Exposure	Conclusive but not sufficient for classification	Conclusive but not sufficient for classification
Carcinogenicity	Conclusive but not sufficient for classification	Conclusive but not sufficient for classification
Mutagenicity	Conclusive but not sufficient for classification	Conclusive but not sufficient for classification
Reproductive Toxicity	Conclusive but not sufficient for classification	Conclusive but not sufficient for classification
Aspiration Hazard	Conclusive but not sufficient for classification	Conclusive but not sufficient for classification

12. Ecological Information

Toxicity	*Immuno Blue Reagent A*	*Immuno Blue Reagent B*	
Chemical Name	The environmental impact of this product has not been fully investigated.	Ethyl alcohol	1,4-Dioxane
Freshwater Algae Data		No data available	No data available
Water Flea Data		Daphnia magna EC50 = 10800 mg/L (24 h) Daphnia magna EC50 = 2 mg/L (48 h) Daphnia magna LC509268 - 14221 mg/L (48 h)	water flea EC50 = 163 mg/L (48 h)
Freshwater Fish Species Data		No data available	No data available
Microtox Data		No data available	No data available
log Pow		logPow-0.32	logPow-0.42

	Immuno Blue Reagent A	*Immuno Blue Reagent B*
Persistence and degradability	No information available.	
Bioaccumulative potential	No information available.	
Results of PBT and vPvB assessment	No information available.	
Other adverse effects	No information available.	

13. Disposal considerations

Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in according to approved disposal

technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

14. Transport Information

IATA / ADR / DOT-US / IMDG	*Immuno Blue Reagent A*	*Immuno Blue Reagent B*
Classification	Not classified as dangerous in the meaning of transport regulations	Classified as dangerous in the meaning of transport regulations
UN number	Not Applicable	1993
UN proper shipping name	Not Applicable	Flammable liquid, n.o.s.
Transport hazard class(es)	Not Applicable	3
Packing group	Not Applicable	II

	Immuno Blue Reagent A	*Immuno Blue Reagent B*
Environmental hazards	Not Applicable	Not Hazardous
Special precautions for user	Not Applicable	Not Applicable
Transport in bulk according to Annex II of MARPOL and the IBC Code	Not Applicable	Not Applicable

15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture	*Immuno Blue Reagent A*	*Immuno Blue Reagent B*
Substances of Very High Concern	None.	None.
Restricted substances under EC 1907/2006, Annex XVII	None.	None.
Substances listed under Annex I of Regulation (EC) No 689/2008	None.	None.
Restricted substances under Annex V of Regulation (EC) No 689/2008	None.	None.
Substances under Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC	None.	None.

German Water hazard classes (Wassergefährdungsklassen)	*Immuno Blue Reagent A*	*Immuno Blue Reagent B*	
Chemical Name	Not classified.	Ethyl alcohol	1,4-Dioxane
Weight percent		45-65	45-65
Germany – Water Classification (VwVwS) - Annex 1			
Germany – Water Classification (VwVwS) - Annex 2 - Water Hazard Classes		hazard class 1 - low hazard to waters	hazard class 2 - hazard to waters
Germany – Water Classification (VwVwS) - Annex 3			

Other International Inventories	*Immuno Blue Reagent A*	*Immuno Blue Reagent B*	
Chemical Name	No information available	Ethyl alcohol	1,4-Dioxane
EINECS (European Union)		Listed	Listed
ELINCS (European List of Notified Chemical Substances)		-	-
ENCS (Japan)		Listed	Listed

PICCS (Philippines)		Listed	Listed
AICS (Australia)		Listed	Listed
South Korea (KECL)		Listed	Listed
Canada (DSL)		Listed	Listed
NDSL		-	-

	Immuno Blue Reagent A	*Immuno Blue Reagent B*
Chemical safety assessment	No Chemical safety assessment has been carried out.	No Chemical safety assessment has been carried out.

16. Other information

References:
• ECHA:htp:/echa.europa.eu/
• TOXNET:htp:/toxnet.nlm.nih.gov/
• eChemPortal:htp:/www.echemportal.org/
• LOLIdatabase:htps:/www.chemadvisor.com/loli-database

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. NH DyeAGNOSTICS GmbH shall not be held liable for any damage resulting from handling or from contact with the above product.