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MATERIAL SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

1.1 Product Identification	STJE0000608
1.2. Relevant identified uses of the substance or mixture and uses advised against	This kit is composed of mixtures and substances which must only be used together under the guidelines of the kit protocol. This kit is intended for the purposes of scientific research use only. It must not be used in diagnostic or other medical procedures.
1.3. Details of the supplier of the safety data sheet	St John's Laboratory Ltd , Knowledge Dock Business Centre, Docklands Campus, University Way, London, E16 2RD, United Kingdom Tel: 0208 223 3081 Email: info@stjohnslabs.com
1.4 Emergency Phone	UK - Call 111 if you urgently need medical assistance or advice if in a non-life-threatening situation. 111 is available 24 hours a day, 365 days a year. USA – Emergency services – Dial 911 EU – Emergency services – Dial 112 ROW – Please seek assistance from local country services.

SECTION 2: HAZARDS SUMMARY

Emergency summary	Excessive exposure may require use of first aid kit and medical follow-up.
GHS Hazard Classification	Not a hazardous substance or mixture according to the Globally Harmonised System of Classification and Labelling Chemicals (GHS).

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	Physical Form	ingredient	Concentration	CAS No.	EC No.
Microwells	Plastic non-reactive wells	-	-	-	-
Lyophilised Standard	White lyophilized powder	BSA Proclin-300	2% 0.1%	- 96118-96-6	- 911-418-6
Concentrated Biotinylated Detection Antibody (100x)	Odourless and colourless liquid	Glycerol	50%	56-81-5	200-289-5
Concentrated HRP-Streptavidin (100x)	Odourless and colourless liquid	Glycerol	50%	56-81-5	200-289-5
Standard/Sample Diluent	Odourless and colourless liquid	Proclin-300	0.1%	96118-96-6	911-418-6
Biotinylated-Detection Antibody Diluent	Odourless and colourless liquid	Proclin-300	0.1%	96118-96-6	911-418-6
HRP-Streptavidin Diluent	Odourless and colourless liquid	Proclin-300	0.1%	96118-96-6	911-418-6
Wash Buffer (25x)	Odourless and colourless liquid	Tween-20	1%	9005-64-5 / 89-83-8	500-018-3 / 201-944-8
TMB Substrate	Liquid	3,3',5,5'tetramethylbenzidine	0.05%	54827-17-7	259-364-6
Stop Solution	Odourless and colourless liquid	Sulphuric acid (H2SO4)	0.5 mol/L	7664-93-9	231-639-5

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SECTION: 4 FIRST-AID MEASURES

4.1 General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.

4.2 If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

4.3 In case of skin contact
Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

4.4 In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

4.5 If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

SECTION 5 FIRE FIGHTING MEASURES

5.1 Suitable extinguishing media
Water spray, alcohol-resistant foam, dry chemical, carbon dioxide or appropriate foam. For small fires, use media such as "alcohol" foam, dry chemical or carbon dioxide. For large fires, apply water from as far as possible. Use large quantities of water applied as a mist or spray. Solid streams of water may be ineffective. Cool affected containers with flooding quantities of water.

5.2 Special precautions for fire-fighters
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

5.3 Special hazards arising from the substance or mixture
Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides, Hydrogen chloride gas.

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1 Person-related safety precautions
Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.2 Measures for environmental protection
Prevent further leakage or spillage if safe to do so. Do not let enter drains. Discharge into the environment must be avoided.

6.3 Measures for containment and cleaning
Contain spillage, and then collect with non-combustible absorbent material (eg. sand, diatomaceous earth, vermiculite). Place in a container for disposal according to local regulations. Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal. Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

SECTION 7 HANDLING AND STORAGE

7.1 Handling
- Wear appropriate protective clothing and safety gloves.
- Avoid inhalation.
- Avoid contact with eyes, skin and clothing.
- Mechanical exhaust required.
- Keep away from ignition sources, heat and flame.
- No smoking at working site.
- Incompatibilities: Strong oxidizing agents, Strong acids. Handling and unloading should be light, to prevent packaging broken, damp and cause losses.
- Working place should be equipped with appropriate varieties and quantities of firefighting equipment and leakage emergency treatment equipment.

7.2 Storage
- Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
- Keep away from heat, sparks and flame.
- Keep away from sources of ignition.
- Incompatible: Strong oxidizing agents, Strong acids.
- Storage place should be equipped with appropriate varieties and quantities of firefighting equipment and leakage emergency treatment equipment.

SECTION 8 EXPOSURE CONTROL/PPE

Name	Occupational exposure limits (EH40/2005 WEL, UK)
3,3',5,5' Tetramethylbenzidine	-
Glycerol	TWA (8 h): 10 mg/m^{3,} Form: Mist
ProClin-300	-
Sulphuric acid	TWA 0.05 mg/m3 Form: Mist
Tween-20	-

8.1 Engineering Controls
Mechanical exhaust required. Safety shower and eye bath.

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Occupational exposure limits in the workplace

MAC (mg/m3)	No data available
PC-STEL (mg/m3)	No data available
TLV-TWA (mg/m3)	No data available
PC-TWA (mg/m3)	No data available
TLV-C (mg/m3)	No data available
TLV=STEL (mg/m3)	No data available

8.2 Personal Protective Equipment

Respiratory: Government approved respirator if needed.
Eye/face: Chemical safety goggles if needed.
Clothing: Wear appropriate protective clothing.
Hand/skin: Protective gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
Body protection: Wear suitable protective clothing according to the concentration and amount of
the substance at the workplace.

8.3 Other Protect

No smoking, drinking and eating at working site. Wash thoroughly after handling.

SECTION 9 PHYSICAL/CHEMIICAL PROPERTIES

Appearance	Liquid
Smell	Odourless
Boiling point/boiling range	°C no data available
Melting point/melting range	°C no data available
Flash Point	°C no data available
Autoignition temperature	°C no data available
Oxidation	No data available
Water solubility	No data available
Viscosity	No data available

SECTION 10 STABILITY AND REACTIVITY

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Heat, flames and sparks

10.5 Incompatible materials

Strong oxidizing agent, Light sensitive, Alcohols, Organic materials, Heavy metals, Powdered metals, Strong reducing agents, Amines, Mercaptans.

10.6 Hazardous decomposition products

Other decomposition products: No data available
Hazardous decomposition products formed under fire conditions: Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides, Hydrogen chloride gas.

SECTION 11 TOXICOLOGICAL INFORMATION

Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
3,3',5,5' Tetramethyl benzidine	-	-	-
Glycerol	= 12600 mg/kg (Rat)	> 10g/kg (Rabbit)	> 570 mg/m^3 (Rat) 1 h
ProClin-300	862 mg/kg (Rat)	2,800 mg/kg (Rabbit)	4 h - 16.67 mg/l – vapor (Calculation method)
Sulphuric acid	2,140 mg/kg (Rat)	Skin - Rabbit	-
Tween-20	38,900 mg/kg (Rat)	No skin irritation – 4 hr (Rabbit) Does not cause skin sensitization (Guinea Pig)	-

Acute toxicity not considered harmful

Other potential effects

Eyes	May cause eye irritation
Skin	May cause eye irritation
Inhalation	Harmful by inhalation
Ingestion	Swallowing may be harmful
Carcinogenesis	N/A
Mutagenic effect	N/A
Reproduction toxicity	N/A
Allergenicity	N/A
Target organ	No known effects

SECTION 12 ECOLOGICAL INFORMATION

Ecotoxicity	Contains no substances that are dangerous to the environment
Mobility	No useful information
Biodegradability	No useful information
Biocumulativity	No useful information

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Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
3,3',5,5' Tetramethyl benzidine	-	-	-
Glycerol	-	LC50 51 – 57 mL/L (Oncorhynchus mykiss) 96 h	EC50 500 mg/L (Daphnia magna) 24 h
ProClin-300	-	flow-through test LC50 - Oncorhynchus mykiss (rainbow trout) - 0.19 mg/l - 96 h (US-EPA) **Chronic toxicity** - semi-static test NOEC - Oncorhynchus mykiss (rainbow trout) - 0.098 mg/l - 35 d (OECD Test Guideline 215)	flow-through test LC50 - Daphnia magna (Water flea) - 0.18 mg/l - 48 h (US-EPA) **Chronic toxicity** - flow-through test NOEC - Daphnia magna (Water flea) - 0.1 mg/l - 21 d (US-EPA)
Sulphuric acid	ErC50 - Desmodesmus subspicatus (green algae) - > 100 mg/l - 72 h	-	EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h (OECD Test Guideline 202)
Tween-20	-	static test LL50 - Danio rerio (zebra fish) - > 100 mg/l - 96 h	EC50 - Daphnia - > 10 mg/l - 48 h

SECTION 13 DISPOSAL CONSIDERATION

13.1 Disposal methods

Dispose of waste in accordance to applicable national, regional, or local regulations. Burn in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

13.2 Contaminated packaging

Dispose in the same manner as unused product.

SECTION 14 TRANSPORT INFORMATION

RID/ADR: Non-Hazardous for Transport: This substance is considered non-hazardous for transport
IATA: Non-Hazardous for Air Transport.
IMO: Non-Hazardous for Sea Transport.

SECTION 15 REGULATORY INFORMATION

This material safety data sheet complies with the requirements of Regulation (EC) No. 1272/2008 and its amendments.

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