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MATERIAL SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

1.1 Product Identification	STJE0002244
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 IDENTIFICATION

Component	Physical Form	Hazardous ingredient	Concentration	CAS No.	EC No.
Biotinylated Detection Ab/Ag	Odourless and Colourless, liquid	Proclin 300	0.04%	96118-96-6	911-418-6
Assay diluent	Odourless and Colourless, liquid	Proclin 300	0.04%	96118-96-6	911-418-6
HRP Conjugate	Odourless and Colourless, liquid	Proclin 300	0.04%	96118-96-6	911-418-6
Standard	Odourless and Colourless, liquid	Proclin 300	0.04%	96118-96-6	911-418-6
Substrate	Odourless and colourless, liquid	Carbamide peroxide (CP)	0.05%	124-43-6	204-701-4
Stop solution	Slightly pungent and colourless, liquid	Sulphuric acid (H_2SO_4)	9.8%	7664-93-9	231-639-5

SECTION 2: HAZARD STATEMENT
Classification according to GHS

Signal Word: WARNING
Danger Symbol:

1.1.1 Proclin 300
H317: May cause an allergic skin reaction.

1.1.2 Sulphuric Acid (H_2SO_4)
H315: Causes skin irritation.
H319: Causes serious eye irritation.

1.1.3 Carbamide peroxide (CP)
H302: Harmful if swallowed.
H312: Harmful in contact with skin.
H332: Harmful if inhaled.
H335: May cause respiratory irritation.

Precuation Statement
Proclin 300
P261: Avoid breathing dust/fumes/gas/mist/vapours/spray.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P302+352:
IF ON SKIN: Wash with plenty of soap and water.
P333+313: If skin irritation or rash occurs: Get medical advice/attention.

Sulphuric acid (H_2SO_4)
P264: Wash hands thoroughly after handling.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P302+352: IF ON SKIN: Wash with plenty of soap and water.
P332+313: If skin irritation occurs: Get medical advice/attention.
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Carbamide peroxide (CP)
P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P302+352: IF ON SKIN: Wash with plenty of soap and water.

3,3',5,5'-tetramethylbenzidine
Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.

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SECTION 3: INFORMATION ON INGREDIENTS

Ingredient	Concentration	CAS No.	EC No.
Sodium Chloride	0.8%	7647-14-5	231-598-3
Potassium Chloride	0.02%	7447-40-7	231-211-8
Disodium hydrogenorthophosphate	0.12%	10039-32-4	231-448-7
Potassium dihydrogen phosphate	0.02%	7778-77-0	231-913-4
Tris	1%	77-86-1	201-064-4
EDTA	0.1%	60-00-4	200-449-4
Glycerol	5%	56-81-5	200-289-5
Tween20	0.5%	9005-64-5	500-018-3
BSA	1%	9048-46-8	--
Mannitol	2%	69-65-8	200-711-8
PVP40	0.35%	9003-39-8	--
Proclin 300	0.04%	96118-96-6	--
Carbamide Peroxide (CP)	0.05%	124-43-6	204-701-4
Sulphuric Acid (H_2SO_4)	1.5%	7664-93-9	231-639-5
Citric Acid	0.2%	77-92-9	201-069-1
3,3',5,5'Tetramethylbenzidine	0.1%	54827-17-7	259-364-6
Water	87.2%	7732-18-5	231-791-2

SECTION 4: FIRST-AID MEASURES

Classification according to GHS

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

Suitable: 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

Protective Equipment: 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.

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

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
Proclin 300
Appearance: Liquid
Odour: No data available
Odour threshold: No data available
pH 4.1 at 100 g/L
Melting point/freezing point: -40 °C
Initial boiling point and boiling range: 189 °C
Flash point: 118 °C - closed cup
Evaporation rate: No data available
Flammability (solid, gas): No data available
Upper/lower flammability or explosive limits: No data available
Vapour pressure: No data available
Vapour density: No data available
Relative density: 1.03 g/cm3
Water solubility: Soluble
Partition coefficient: noctanol/water: No data available
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Viscosity: No data available
Explosive properties: No data available
Oxidizing properties: No data available

Sulphuric acid (H_2SO_4)
Appearance: Colourless Liquid
Odour: Pungent
Odour threshold: No data available
pH: ~1
Melting point/freezing point: No data available
Boiling point/Boiling range: No data available
Flash point: No data available
Evaporation rate: No data available
Flammability (solid, gas): No data available
Upper/lower flammability or explosive limits: No data available
Vapour density: No data available
Vapour pressure: No data available
Relative density: No data available
Solubility in/Miscibility with Water: Soluble
Partition coefficient: noctoanol/water: No data available
Auto igniting: No data available
Decomposition temperature: No data available
Viscosity: No data available

Carbamide peroxide (CP)
Appearance: White crystalline
Odour: No data available
Odour threshold: No data available
pH: No data available
Melting point/freezing point: 90 - 93 °C - lit.
Initial boiling point and boiling range: No data available
Flash point: No data available
Evaporation rate: No data available
Flammability (solid, gas): No data available
Upper/lower flammability or explosive limits: No data available
Vapour pressure: 23.3 mmHg at 30 °C
Vapour density: No data available
Relative density: 1.390 g/cm3 at 20 °C
Water solubility: No data available
Partition coefficient: noctanol/water: No data available
Auto-ignition temperature: No data available
Decomposition temperature: > 60 °C
Viscosity: No data available
Explosive properties: No data available
Oxidizing properties: The substance or mixture is classified as oxidizing with the category 3.
Other safety information: Bulk density 0.6 - 0.7 g/L

3,3',5,5'-tetramethylbenzidine
Appearance: Liquid
Odour: No data available
Odour Threshold: No data available
pH: No data available
Melting point/freezing point: 168-171 °C - lit.
Initial boiling point and boiling range: 168 - 169 °C
Flash point: No data available
Evaporation rate: No data available
Flammability (solid, gas): No data available
Upper/lower flammability or explosive limits: No data available
Vapor pressure: No data available
Vapor density: No data available
Relative Density: No data available
Water solubility: insoluble
Partition coefficient: octanol/water: No data available
Autoignition temperature: No data available
Decomposition temperature: No data available
Viscosity: No data available
Explosive properties: No data available
Oxidizing properties: 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

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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
Proclin 300
Acute toxicity
LD50 Oral - Rat - 862 mg/kg
LD50 Dermal - Rabbit - 2,800 mg/kg
Skin corrosion/irritation
Skin - Rabbit Result: Corrosive Serious eye damage/eye irritation
Eyes - Rabbit Result: Corrosive to eyes
Respiratory or skin sensitisation - Guinea pig Result: May cause sensitisation by skin contact. Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Sulphuric acid (H_2SO_4)
Acute toxicity
LD50 Oral - Rat - 1530 mg/kg
LD50 Dermal - Rabbit - 2730 mg/kg
LC50 Inhalation- Rat - 850 mg/m3 1 h
Skin corrosion/irritation: Can cause severe burns
Serious eye damage/irritation: Can cause severe burns
Respiratory or skin sensitization: No data available
Germ cell mutagenicity: No data available
Carcinogenicity: No data available
Reproductive toxicity: No data available
Aspiration hazard: Can cause severe burns
Ingestion: May be harmful if swallowed. Causes burns.
Skin contact: May be harmful if absorbed through skin. Causes burns.
Eye contact: Causes eye burns.

Carbamide peroxide (CP)
LD50 = 4060 mg/kg (skin-rat)
Carcinogenicity:
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

3,3',5,5'-tetramethylbenzidine
Acute toxicity
Oral: No data available
Inhalation: No data available
Dermal: No data available
Skin corrosion/irritation: No data available
Serious eye damage/eye irritation: No data available
Respiratory or skin sensitization: No data available
Germ cell mutagenicity
Test Type: Mouse
Test system: lymphocyte
Remarks: Mutation in mammalian somatic cells.
Carcinogenicity: No data available
Reproductive toxicity: No data available
Aspiration hazard: Can cause severe burns

SECTION 12: ECOLOGICAL INFORMATION
Proclin 300
Ecotoxicity: No data available
Persistence and degradability: No data available
Bioaccumulative potential: No data available
Mobility in soil: No data available
Results of PBT and vPvB assessment: No data available
Other adverse effects: No data available

Sulphuric acid (H_2SO_4)
Ecotoxicity: No data available
Persistence and degradability: No data available
Bioaccumulative potential: No data available
Mobility in soil: No data available
Results of PBT and vPvB assessment: No data available
Other adverse effects: No data available

Carbamide peroxide (CP)
Ecotoxicity: No data available
Persistence and degradability: No data available
Bioaccumulative potential: No data available
Mobility in soil: No data available
Results of PBT and vPvB assessment: No data available
Other adverse effects: No data available

3,3',5,5'-tetramethylbenzidine
Ecotoxicity: No data available
Persistence and degradability: No data available
Bioaccumulative potential: No data available
Mobility in soil: No data available
Results of PBT and vPvB assessment: This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
Other adverse effects: No data available

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 b highly flammable. 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 to be 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.

SECTION 16: OTHER INFORMATION
The products referenced in this sheet are sold with intention for research use only by personnel familiar with chemicals and trained professionals with good laboratory practices in science research. No other use is intended, and any other use may involve substantive hazards.
All information is believed to be correct at the time of writing, does not purport to be all inclusive and shall be used only as guide for experienced personnel. Users should carry out their own investigation to determine the suitability of the information for their purposes. In no way shall we be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising from using the above information.

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