

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**Product Identifier**

Perihal Produk:

Product Description:

Cat No. :

PathoDX Strep Grouping Universal Kit

PathoDX Strep Grouping Universal Kit

R062076

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

Recommended Use

Laboratory chemicals.

Uses advised against

No Information available

Details of the supplier of the safety data sheet**Company**Thermo Scientific Microbiology Sdn Bhd
No.6, Jalan TTC 6, Taman Teknologi Cheng,
Cheng, 75250 Melaka, Malaysia
+606 334 0975 .**Supplier**Remel
12076 Santa Fe Drive Lenexa,
KS 66215 United States
Telephone: 1-800-255-6730
Fax: 1-800-621-8251**E-mail address**

mbd-sds@thermofisher.com

Emergency Telephone Number(603) 5122 8888
CHEMTREC Malaysia **1-800-815-308** (Malay)
CHEMTREC Malaysia (Kuala Lumpur) **+(60)-327884561** (Malay)**SECTION 2: HAZARDS IDENTIFICATION****Classification of the substance or mixture**

Flammable liquids	Category 3 (H226) Oxidizing liquids
Category 3 (H272)	
Acute oral toxicity	Category 4 (H302)
Skin Corrosion/Irritation	Category 1 A (H314)
Serious Eye Damage/Eye Irritation	Category 1 (H318)

Label Elements

Signal Word

Danger

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Hazard Statements

- H226 - Flammable liquid and vapor
- H272 - May intensify fire; oxidizer
- H302 - Harmful if swallowed
- H314 - Causes severe skin burns and eye damage

Precautionary Statements

- P280 - Wear protective gloves/protective clothing/eye protection/face protection
- P221 - Take any precaution to avoid mixing with combustibles
- P371 + P380 + P375 - In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P310 - Immediately call a POISON CENTER or doctor/physician
- P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
- P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower
- P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

Other Hazards

This product does not contain any known or suspected endocrine disruptors

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight %
EXTRACTION REAGENT 1 Sodium Nitrite	7632-00-0	19.4
EXTRACTION REAGENT 2 Acetic Acid (Glacial)	64-19-7	32
EXTRACTION REAGENT 3 Sodium carbonate monohydrate	5968-11-6	27.5
ProClin 300	55965-84-9	0.05
Sodium azide	26628-22-8	0.1

SECTION 4: FIRST AID MEASURES

Description of first aid measures

General Advice

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

Ingestion

Do NOT induce vomiting. Call a physician or poison control center immediately.

Inhalation

If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Remove to fresh air. Immediate medical attention is required.

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Self-Protection of the First Aider Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Causes burns by all exposure routes. Difficulty in breathing. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated.

Indication of any immediate medical attention and special treatment needed

Notes to Physician

Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable Extinguishing Media

CO₂, dry chemical, dry sand, alcohol-resistant foam. Water mist may be used to cool closed containers.

Extinguishing media which must not be used for safety reasons

No information available.

Special hazards arising from the substance or mixture

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Oxidizer: Contact with combustible/organic material may cause fire. May ignite combustibles (wood paper, oil, clothing, etc.).

Hazardous Combustion Products

Thermal decomposition can lead to release of irritating gases and vapors.

Advice for fire-fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Remove all sources of ignition. Take precautionary measures against static discharges. Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information.

Methods and Material for Containment and Cleaning Up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Sweep up and shovel into suitable containers for disposal.

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Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Do not get in eyes, on skin, or on clothing. Wear personal protective equipment/face protection. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. Keep away from clothing and other combustible materials. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Take precautionary measures against static discharges.

Conditions for Safe Storage, Including any Incompatibilities

Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers. Corrosives area. Do not store near combustible materials. Keep away from heat, sparks and flame.

Specific End Uses

Use in laboratories.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Component	Malaysia	ACGIH TLV	OSHA PEL
EXTRACTION REAGENT 2 Acetic Acid (Glacial)		TWA: 10 ppm STEL: 15 ppm	(Vacated) TWA: 10 ppm (Vacated) TWA: 25 mg/m ³ TWA: 10 ppm TWA: 25 mg/m ³
Sodium azide		Ceiling: 0.29 mg/m ³ Ceiling: 0.11 ppm	Skin (Vacated) Ceiling: 0.1 ppm (Vacated) Ceiling: 0.3 mg/m ³

Component	European Union	The United Kingdom	Germany
EXTRACTION REAGENT 2 Acetic Acid (Glacial)	-	STEL: 37 mg/m ³ STEL: 15 ppm TWA: 10 ppm TWA: 25 mg/m ³	TWA: 10 ppm (8 Stunden). AGW - exposure factor 2 TWA: 25 mg/m ³ (8 Stunden). AGW - exposure factor 2 TWA: 10 ppm (8 Stunden). MAK TWA: 25 mg/m ³ (8 Stunden). MAK Höhepunkt: 20 ppm Höhepunkt: 50 mg/m ³
Sodium azide	Skin TWA 0.1 mg/m ³ STEL 0.3 mg/m ³	Skin TWA 0.1 mg/m ³ STEL 0.3 mg/m ³	MAK 0.2 mg/m ³ (inhalable)

Exposure Controls

Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting equipment.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye Protection

Goggles

Hand Protection

Protective gloves

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Skin and body protection Long sleeved clothing

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.
(Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Respiratory Protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators
To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly
When RPE is used a face piece Fit Test should be conducted

Hygiene Measures When using do not eat, drink or smoke Remove and wash contaminated clothing and gloves, including the inside, before re-use Keep away from food, drink and animal feeding stuffs Contaminated work clothing should not be allowed out of the workplace Provide regular cleaning of equipment, work area and clothing Avoid contact with skin, eyes or clothing Remove and wash contaminated clothing and gloves, including the inside, before re-use Wear suitable gloves and eye/face protection

Environmental exposure controls Prevent product from entering drains Do not allow material to contaminate ground water system Local authorities should be advised if significant spillages cannot be contained

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Clear	
Physical State	Liquid	
Odor	No information available	
Odor Threshold	No data available	
pH	Not applicable	
Melting Point/Range	No data available	
Softening Point	No data available	
Boiling Point/Range	No information available	
Flash Point	No information available	Method - No information available
Evaporation Rate	No data available	
Flammability (solid,gas)	Not applicable	Liquid
Explosion Limits	No data available	
Vapor Pressure	No data available	
Vapor Density	No data available	(Air = 1.0)
Specific Gravity / Density	No data available	
Bulk Density	Not applicable	Liquid
Water Solubility	No information available	
Solubility in other solvents	No information available	

Partition Coefficient (n-octanol/water)

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Component	log Pow	
EXTRACTION REAGENT 1	-3.7	
Sodium Nitrite		
EXTRACTION REAGENT 2	-0.2	
Acetic Acid (Glacial)		
ProClin 300	0.7	
Autoignition Temperature	No data available	
Decomposition Temperature	No data available	
Viscosity	No data available	
Explosive Properties		explosive air/vapour mixtures possible
Oxidizing Properties	Oxidizer	
VOC Content(%)	32	

SECTION 10: STABILITY AND REACTIVITY

Reactivity

Yes.

Chemical Stability

Stable under normal conditions. Oxidizer: Contact with combustible/organic material may cause fire.

Possibility of Hazardous Reactions

Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	None under normal processing.

Conditions to Avoid

Incompatible products. Excess heat. Combustible material. Keep away from open flames, hot surfaces and sources of ignition. Exposure to air or moisture over prolonged periods.

Incompatible Materials

Strong reducing agents. Combustible material.

Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects

Acute Toxicity

Toxicology data for the components

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Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
EXTRACTION REAGENT 1 Sodium Nitrite	LD50 = 85 mg/kg (Rat)		LC50 = 5.5 mg/L (Rat) 4 h
EXTRACTION REAGENT 2 Acetic Acid (Glacial)	LD50 = 3310 mg/kg (Rat)	LD50 = 1060 mg/kg (Rabbit)	LC50 = 11.4 mg/L (Rat) 4 h
ProClin 300	LD50 = 53 mg/kg (Rat)	LD50 = 87.12 mg/kg (Rabbit)	
Sodium azide	LD50 = 27 mg/kg (Rat)	-	LC50 0.054 - 0.52 mg/L (Rat) 4 h

Chronic Toxicity

Carcinogenicity

There are no known carcinogenic chemicals in this product

Legend:

X - Listed 'I' - Not Listed S - Indicates a substance that is identified in a proposed or final Significant New Use Rule.

Sensitization

No information available

Mutagenic Effects

No information available

Reproductive Effects

No information available

Developmental Effects

No information available

Target Organs

No information available.

Symptoms

Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity effects

Contains a substance which is: The product contains following substances which are hazardous for the environment. Very toxic to aquatic organisms.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
EXTRACTION REAGENT 1 Sodium Nitrite	Oncorhynchus mykiss: LC50 = 0.09-0.13 mg/L 96h	12.5-100 mg/L 48h		
EXTRACTION REAGENT 2 Acetic Acid (Glacial)	Pimephales promelas: LC50 = 88 mg/L/96h Lepomis macrochirus: LC50 = 75 mg/L/96h	EC50 = 95 mg/L/24h		Photobacterium phosphoreum: EC50 = 8.8 mg/L/15 min Photobacterium phosphoreum: EC50 = 8.8 mg/L/25 min Photobacterium phosphoreum: EC50 = 8.8 mg/L/5 min
ProClin 300				EC50 = 5.7 mg/L 16 h
Sodium azide	LC50: = 0.7 mg/L, 96h (Lepomis macrochirus) LC50: = 0.8 mg/L, 96h (Oncorhynchus mykiss) LC50: = 5.46 mg/L, 96h flow-through (Pimephales promelas)			

Persistence and degradability Degradation in sewage

No information available

Contains substances known to be hazardous to the environment or not degradable in waste

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treatment plant water treatment plants.

Bioaccumulative potential No information available

Component	log Pow	Bioconcentration factor (BCF)
EXTRACTION REAGENT 1 Sodium Nitrite	-3.7	No data available
EXTRACTION REAGENT 2 Acetic Acid (Glacial)	-0.2	No data available
ProClin 300	0.7	54 dimensionless

Mobility in soil No information available. .

Other adverse effects No information available

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from Residues/Unused Products Dispose of in accordance with local regulations Waste is classified as hazardous Dispose of in accordance with the European Directives on waste and hazardous waste

Contaminated Packaging Dispose of this container to hazardous or special waste collection point. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous Keep product and empty container away from heat and sources of ignition

Other Information Do not empty into drains Large amounts will affect pH and harm aquatic organisms Do not flush to sewer Waste codes should be assigned by the user based on the application for which the product was used Can be landfilled or incinerated, when in compliance with local regulations

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

UN-No UN2790
Hazard Class 8
Packing Group III
Proper Shipping Name Acetic Acid Solution (more than 10% but less than 50% acid by weight)

Road and Rail Transport

UN-No UN2790
Hazard Class 8
Packing Group III
Proper Shipping Name Acetic Acid Solution (more than 10% but less than 50% acid by weight)

IATA

UN-No UN2790
Hazard Class 8
Packing Group III
Proper Shipping Name Acetic Acid Solution (more than 10% but less than 50% acid by weight)

Special Precautions for User No special precautions required

SECTION 15: REGULATORY INFORMATION

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

International Inventories

X = listed

Component	EINECS	TSCA	DSL	PICCS	ENCS	ISHL	IECSC	AICS	KECL
EXTRACTION REAGENT 1 Sodium Nitrite	231-555-9	X	X	X	X	X	X	X	KE-31546
EXTRACTION REAGENT 2 Acetic Acid (Glacial)	200-580-7	X	X	X	X	X	X	X	KE-00013
EXTRACTION REAGENT 3 Sodium carbonate monohydrate	-	-	-	X	X	X	X	X	-
ProClin 300	-	-	X	X	X	X	X	-	KE-05738
Sodium azide	247-852-1	X	X	X	X	X	X	X	KE-31357

Component	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
EXTRACTION REAGENT 2 Acetic Acid (Glacial)				Annex I - Y34

National Regulations

Persistent Organic Pollutant
Ozone Depletion Potential

This product does not contain any known or suspected substance
This product does not contain any known or suspected substance

SECTION 16: OTHER INFORMATION

Legend

CAS - Chemical Abstracts Service

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
IECSC - Chinese Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances

WEL - Workplace Exposure Limit

ACGIH - American Conference of Governmental Industrial Hygienists

RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50%

POW - Partition coefficient Octanol:Water

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

OECD - Organisation for Economic Co-operation and Development

BCF - Bioconcentration factor

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

MARPOL - International Convention for the Prevention of Pollution from Ships

ATE - Acute Toxicity Estimate

VOC - (Volatile Organic Compound)

Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

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Revision Summary	Not applicable.

In accordance with local and national regulations: Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet