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Rev. 04
SDS PN: 100-365-200

1. PRODUCT AND COMPANY IDENTIFICATION				
1.1 Product Identifier				
Product Name	DNA Sequencing Kit 4.0 / DNA Sequencing Kit 4.0 v2			
Product Number(s)	100-356-200 / 100-612-400			
Other means of identification	This product is a kit containing 1 reagent tube and 1 sequencing plate.			
	Subcomponent Name	Part #	#	Cap Color
	OS Enzyme (tube)	001-028-310	1	White
	DNA Sequencing Reagent Plate 4.0 / DNA Sequencing Reagent Plate 4.0 v2	100-356-200 / 100-612-400	1	NA
1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against				
Identified Use	For use with the Pacific Biosciences PacBio RSII.			
Restrictions on Use	FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES.			
1.3 Details of the Supplier of the Substance or Mixture				
Supplier Name and Address	Pacific Biosciences 1380 Willow Road Menlo Park, CA 94025 U.S.A www.pacificbiosciences.com			
Supplier phone	+1 650-521-8000			
1.4 Emergency Telephone Number				
Within USA & Canada	Call CHEMTREC 1-800-424-9300 (reference CCN# 656805)			
Outside USA and Canada	techsupport@pacificbiosciences.com			
2. HAZARD(S) IDENTIFICATION				
2.1 Classification of the substance or mixture				
The kit as a whole is not a hazardous substance or mixture. ¹ Subcomponents are classified as follows.				
Subcomponent Name	Part #	Classification		
OS Enzyme (tube)	001-028-310	Not a hazardous substance or mixture.		
DNA Sequencing Reagent Plate 4.0 / DNA Sequencing Reagent Plate 4.0 v2	100-356-200 / 100-612-400	Not a hazardous substance or mixture.		
2.2 GHS Label Elements and precautionary statements				
Not a hazardous substance or mixture.				
2.3 Hazards not otherwise classified (HNOC) or not covered by GHS				
None				
3. COMPOSITION / INFORMATION ON INGREDIENTS				
3.1 Substances				
Common Name and Synonyms	DNA Sequencing Kit 4.0 / DNA Sequencing Kit 4.0 v2			
CAS Number	None			
Other unique identifiers	None			
3.2 Hazardous components				
Three wells on the DNA Sequencing Plate contain hazardous ingredients as specified below. The remaining wells and OS Enzyme do not contain any hazardous ingredients.				

¹ Classification in accordance with 29CFR1910 (OSHA HCS) and UN Globally Harmonized system of classification and labelling of chemicals

Component	Hazardous Ingredient(s)	CAS	GHS Classification	Concentration (wt%)
DNA Sequencing Reagent Plate 4.0 / DNA Sequencing Reagent Plate 4.0 v2	Dithiothreitol	3483-12-3	Acute Toxicity, Oral (Category 4); Skin Irritation (Category 2); Eye Irritation (Category 2A); Specific Target Organ Toxicity – single exposure (Category 3), Respiratory system; Chronic Aquatic Toxicity (Category 3)	Well A5 = 6.17% (400 mM)
	4-Morpholinopropanesulfonic acid	1132-61-2	Skin irritation (Category 2); Eye irritation (Category 2A); Specific target organ toxicity – single exposure (Category 3), Respiratory system	Well A6 = 1.05% (50 mM) Well A8 = 1.16% (56 mM)
4. FIRST AID MEASURES				
4.1 Description of First Aid Measures				
General advice		Consult a physician. Show this safety data sheet to the physician.		
If inhaled		If breathed in, move person into fresh air. If not breathing, give artificial respiration.		
In case of skin contact		Wash off with plenty of water. If skin irritation occurs: Get medical advice/attention.		
In case of eye contact		Flush eyes with water.		
If swallowed		Never give anything by mouth to an unconscious person. Rinse mouth with water.		
4.2 Most important symptoms/effects, both acute and delayed				
No data available. Refer to section 2.2 and section 11 for additional information.				
4.2 Indication of any immediate medical attention and special treatment needed				
No data available				
5. FIRE-FIGHTING MEASURES				
5.1 Suitable Extinguishing Media				
Dry chemical, carbon dioxide, foam or water.				
5.2 Special hazards arising from the substance or mixture				
Combustion will produce oxides of carbon, nitrogen and sulfur.				
5.3 Advice for firefighters (special protective equipment or precautions)				
Wear self-contained breathing apparatus for fire-fighting as necessary.				
6. ACCIDENTAL RELEASE MEASURES				
6.1 Personal precautions, protective equipment and emergency procedures				
Avoid breathing vapors, mists or gas. For personal protection see section 8.0.				
6.2 Environmental precautions				
Avoid release to the environment. Report spills and releases as required to appropriate authorities.				
6.3 Methods and materials for cleanup				
Wear personal protective equipment, wipe up with paper towel (or similar), and contain in closed containers.				
6.4 Reference to other sections				
For disposal see section 13.				
7. HANDLING AND STORAGE				
7.1 Precautions for safe handling				
Utilize standard good lab practices. Use in a well-ventilated area and wear standard PPE.				
7.2 Conditions for safe storage, including any incompatibilities				
Keep containers tightly closed at the recommended storage temperature.				
8. EXPOSURE CONTROLS / PERSONAL PROTECTION				
8.1 Control Parameters				
Contains no substances with occupational exposure limit values.				
8.2 Exposure Controls				
Appropriate engineering controls:				
General industrial hygiene practice. No special ventilation required for normal use				
Personal Protective Equipment (PPE):				
Eye/Face Protection		Safety glasses		

Skin and Body Protection	Latex or nitrile gloves; lab coat /apron		
Respiratory Protection	None required		
9. PHYSICAL AND CHEMICAL PROPERTIES			
9.1 Information on basic physical and chemical properties			
Appearance	OS Enzyme (tube)	001-028-310	Clear and colorless liquid
	DNA Sequencing Reagent Plate 4.0 / DNA Sequencing Reagent Plate 4.0 v2	100-356-200 / 100-612-400	Wells A1, B1, C1, D1, A5, A6, A7, A9, A10, B10, A12, B12 contain microliters of clear colorless liquids Well A4 contains microliters of clear yellow liquid. Well A8 contains microliters of clear light purple liquid (4.0) or clear colorless liquid (4.0 v2). Well A11 contains microliters of clear purple liquid.
Odor	The DNA Sequencing Plate has a slight sulfur odor.		
Odor Threshold	Not applicable		
pH	7.0-8.5		
Melting point/freezing point	No data available		
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 limit	No data available		
Vapor pressure	No data available		
Relative density	No data available		
Solubility(ies)	No data available		
Partition coefficient: n-octanol/water	No data available		
Auto-ignition temperature	No data available		
Decomposition temperature	No data available		
Viscosity	No data available		
10. STABILITY AND REACTIVITY			
Reactivity	This product is not reactive under normal conditions of storage and use.		
Chemical Stability	Stable under recommended storage conditions.		
Possibility of Hazardous Reactions	No data available		
Conditions to Avoid	No data available		
Incompatible Materials	Avoid contact with strong acids, bases and oxidizers.		
Hazardous Decomposition Products	No data available. In the event of fire see section 5.		
11. TOXICOLOGICAL INFORMATION			
11.1 Information on likely routes of exposure			
The most likely route of exposure is via skin or eye contact. Exposure via inhalation or ingestion is less likely.			
11.2 Symptoms related to the physical, chemical and toxicological characteristics			
No data available			
11.3 Delayed and immediate effects and also chronic effects from short and long-term exposure			
Eyes	No data available		
Skin	No data available		
Inhalation	No data available		
Ingestion	No data available		
Chronic Effects	No data available		
Aggravated Medical Conditions	No data available		
Interactions with other Chemicals	No data available		

11.4 Numerical measures of toxicity	
Acute toxicity	No data available
Skin corrosion/irritation	No data available
Serious eye damage/irritation	No data available
Respiratory or skin sensitization	No data available
Germ cell mutagenicity	No data available
Reproductive toxicity	No data available
Specific target organ toxicity	No data available
11.5 Carcinogenicity	
No ingredients in this product are listed as carcinogens by ACGIH, IARC, NTP or OSHA.	
12. ECOLOGICAL INFORMATION	
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	None Required
Other adverse effects	No data available
13. DISPOSAL CONSIDERATIONS	
Dispose all waste in accordance with local, regional and national regulations.	
Product	See above
Contaminated Packaging	See above
US EPA Waste Number	No EPA ID number. Not regulated as a US federal hazardous waste. Not regulated under Title 22 as a California hazardous waste.
14. TRANSPORT INFORMATION	
Transportation of this product is not regulated under ICAO, IMDG, US DOT, European ADR or Canadian TDG.	
15. REGULATORY INFORMATION	
15.1 USA Federal Regulations	
SARA 302	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302
SARA 313	This material does not contain any chemical components with known CAS numbers that exceed the threshold reporting levels established by SARA Title III, Section 313
SARA 311/312	No SARA hazards
TSCA	Research use only
15.2 USA State Regulations	
CA Prop 65	This kit does not contain any chemicals known to the State of California to cause cancer or adverse reproductive health effects
16. OTHER INFORMATION	
Prepared By	Pacific Biosciences Environment, Health and Safety 1380 Willow Road Menlo Park, CA 94025 U.S.A. safety@pacificbiosciences.com
Further Information	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. It is not a warranty or quality specification. This information relates only to the specific material designated and may not be valid for use in combination with any other material or in any other process.