DNA-500 KIT ASSY (P/N 292-27910-91, 292-27910-10, 292-27910-30) includes DNA-500 Separation Buffer and DNA-500 Marker solution.

Safety Data Sheet

Section 1: Identification of the substance or mixture and of the supplier

Product name:	DNA-500 Separation Buffer
Name of supplier:	Shimadzu Corporation
Address:	1 Nishinokyo-Kuwabaracho, Nakagyo-ku, Kyoto 604-8511, Japan
Section in charge:	Clinical & Biotechnology Business Unit, Life Science Business Department
Telephone:	+81-75-823-1351
FAX:	+81-75-823-1364
Use of the product:	This product is for analytical research use only. Not applicable for clinical and/or diagnostic purposes.

Section 2: Hazards Identification

GHS classification:	Reproductive toxicity	Category 1B
	Specific target organ toxicity (Single exposure)	Category 2 (Nervous system, Digestive tract)
	Specific target organ toxicity (Repeated exposure)	Category 2 (Kidneys)

Symbol:

Signal word:	Danger
Hazard statements:	May damage fertility or the unborn child. May cause damage to organs. May cause damage to organs through prolonged or repeated exposure.
Prevention:	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/ protective clothing/ eye protection.
Response:	IF exposed or concerned: Call a POISON CENTER/ doctor. IF exposed or concerned: Get medical advice/ attention. Get medical advice/ attention if you feel unwell.
Storage:	Store locked up.
Disposal:	Dispose of contents/ container according to all federal, state and local environmental regulations.

Section 3: Composition/information of ingredients

Substance/ mixture:	Mixture		
General description:	Buffer solution including boric acid and tris(hydroxymethyl)aminomethane.		
Substances:	Boric acid:	CAS No. 10043-35-3	<5%
	Tris(hydroxymethyl)aminomethane:	CAS No. 77-86-1	<5%

Section 4: First-aid measures

Inhalation:	Remove to uncontaminated area and supply flesh air. Promptly consult doctor, if needed.
Skin contact:	Take off contaminated clothing and wash skin with plenty of water.
Eye contact:	Flush eyes with plenty of water for at least 15 minutes, and obtain medical attention.
Ingestion:	Drink plenty of water to induce vomiting, and obtain medical attention.

Section 5: Fire-fighting measures

Extinguishing media: Use water mist, foam, powder, carbon dioxide, dry sand.

Specific hazards arising from fire-fighting:

Gases will form upon combustion of carbon monoxide, nitrogen oxides, boric oxides.

Special fire-fighting measures: In case of fire in the surrounding area, promptly move the container to a safe place.

Section 6: Accidental release measures

Personal precautions: Wear appropriate protective equipment

Environmental precautions: Absorb as much of the material as possible with paper towel or sand.

Section 7: Handling and storage

Handling: Wear personal protective equipment in order to prevent inhalation and the product from conducting eyes or skin.

Storage: Keep tightly closed in dark cool place.

Section 8: Exposure controls/personal protection

Exposure limits: No occupational exposure limit values and/or biological limit values are established.

Permitted concentration: Japan Society for Occupational Health: Not established
ACGIH: (Boric Acid) TWA 2mg/m^3(I), STEL 6mg/m^3(I)

Equipment measures: Eyewash equipments

Respiratory protection: Not required

Hand protection: Wear impervious glove.

Eye protection: Wear tightly sealed goggles.

Skin and body protection: Wear white coat.

Section 9: Physical and chemical properties

Appearance (Physical state, color, etc.):
Colorless, transparent liquid

Odor: None

pH: 8.3 at 20ºC

Melting/ Freezing point: No data available

Boiling point/ boiling range: No data available

Flash point: No data available

Evaporation rate: No data available

Vapor pressure: No data available

Density/ relative density: No data available

Water solubility: Miscible

Auto ignition: The product does not combust spontaneously.

Decomposition temperature: No data available

Viscosity: No data available

Section 10: Stability and reactivity

Reactivity: No risk of hazardous reaction.

Stability: Stable at normal temperature and pressure.

Conditions/Materials to avoid: Oxidizing substances

Hazardous decomposition products: No information available

Section 11: Toxicological information

No data available for the mixture.

Additional toxicological information on the components of this product

Boric acid: Acute toxicity (oral): LD50 value of 3,241mg/kg

Skin corrosion/irritation: At 24 and 72 hours, moderate irritation was noted.
Serious eye damage/eye irritation: The substance irritates the human eye.
Reproductive toxicity:

Adverse effects on reproduction of parental animals and development of pups at doses producing no parental toxicity.

Specific target organ toxicity (single exposure):

Causes damage to organs (nervous system, digestion tract)

Specific target organ toxicity (repeated exposure):

Causes damage to organs (kidney) through prolonged or repeated exposure.

Section 12: Ecological information

No data available for the mixture.

Additional toxicological information on the components of this product

Boric acid: Ecotoxicity: Hazardous to the aquatic environment(acute hazard) was classified into Not classified
Hazardous to the aquatic environment(long-term hazard was classified into Not classified
Persistence and degradability: No data available
Bioaccumulative potential: No data available
Biotransportability: No data available

Section 13: Disposal considerations

Residual waste: Dispose of contents/ container according to all federal, state and local environmental regulations.

Contaminated container: After removing the contents, dispose of contents/ container according to all federal, state and local environmental regulations.

Section 14: Transport information

US DOT, IMDG (sea), ADR/RID (land), ICAO/IATA (air): No classification assigned.

Prior to transport, make sure no leakage is observed from the bottle and stow a cargo without dropping and turning over.

Section 15: Regulatory information

U.S. TSCA Inventory: Boric acid

The composition/ information of ingredients is disclosed according to GHS. Comply with all countries, national and local regulation.

Section 16: Other information

References

1) National Institute of Technology and Evaluation: GHS; http://www.safe.nite.go.jp/ghs/ghs_index.html
2) National Institute of Technology and Evaluation: CHRIP; http://www.nite.go.jp/chem/chrip/chrip_search/systemTop
3) Ministry of Economy, Trade and Industry: GHS Mixture Classification System ver. 2.0

Information included in this document may be changed according to revision of laws and regulations or new discoveries, information, or test results. Although descriptions are based on reference materials, literature, and other information currently available, any values such as quantity and physical/chemical properties or evaluation described in this document are not guaranteed. Notes are provided assuming regular use. When using the material under special conditions, implement safety measures that are suitable for the intended purpose and use.

DNA-500 KIT ASSY (P/N 292-27910-91, 292-27910-10, 292-27910-30) includes DNA-500 Separation Buffer and DNA-500 Marker solution.

Safety Data Sheet

Section 1: Identification of the substance or mixture and of the supplier

Product name:	DNA-500 Marker solution
Name of supplier:	Shimadzu Corporation
Address:	1 Nishinokyo-Kuwabaracho, Nakagyo-ku, Kyoto 604-8511, Japan
Section in charge:	Clinical & Biotechnology Business Unit, Life Science Business Department
Telephone:	+81-75-823-1351
FAX:	+81-75-823-1364
Use of the product:	This product is for analytical research use only. Not applicable for clinical and/or diagnostic purposes.

Section 2: Hazards Identification

GHS classification:	Not Applicable / Classification not possible
Symbol:	Not Applicable
Signal word:	Not Applicable
Hazard statements:	-
Prevention:	-
Response:	-
Storage:	-
Disposal:	-

Section 3: Composition/information of ingredients

Substance/ mixture:	Mixture		
General description:	Buffer solution including boric acid.		
Substances:	Boric acid:	CAS No. 10043-35-3	<0.3%

Section 4: First-aid measures

Inhalation:	Remove to uncontaminated area and supply flesh air. Promptly consult doctor, if needed.
Skin contact:	Take off contaminated clothing and wash skin with plenty of water.
Eye contact:	Flush eyes with plenty of water for at least 15 minutes, and obtain medical attention.
Ingestion:	Drink plenty of water to induce vomiting, and obtain medical attention.

Section 5: Fire-fighting measures

Extinguishing media:	Use water mist, foam, powder, carbon dioxide, dry sand.
Specific hazards arising from fire-fighting:	Gases will form upon combustion of carbon monoxide, nitrogen oxides, boric oxides.
Special fire-fighting measures:	In case of fire in the surrounding area, promptly move the container to a safe place.

Section 6: Accidental release measures

Personal precautions:	Wear appropriate protective equipment
Environmental precautions:	Absorb as much of the material as possible with paper towel or sand.

Section 7: Handling and storage

Handling:	Wear personal protective equipment in order to prevent inhalation and the product from conducting eyes or skin.
Storage:	Keep tightly closed in dark cool place.

Section 8: Exposure controls/personal protection

Exposure limits:	No occupational exposure limit values and/or biological limit values are established.
Permitted concentration:	Japan Society for Occupational Health: Not established ACGIH: (Boric Acid) TWA 2mg/m^3(I), STEL 6mg/m^3(I)
Equipment measures:	Eyewash equipments
Respiratory protection:	Not required
Hand protection:	Wear impervious glove.
Eye protection:	Wear tightly sealed goggles.
Skin and body protection:	Wear white coat.

Section 9: Physical and chemical properties

Appearance (Physical state, color, etc.):	Colorless, transparent liquid
Odor	None
pH:	8.3 at 20ºC
Melting/ Freezing point:	No data available
Boiling point/ boiling range:	No data available
Flash point:	No data available
Evaporation rate:	No data available
Vapor pressure:	No data available
Density/ relative density:	No data available
Water solubility:	Miscible
Auto ignition:	The product does not combust spontaneously.
Decomposition temperature:	No data available
Viscosity:	No data available

Section 10: Stability and reactivity

Reactivity:	No risk of hazardous reaction.
Stability:	Stable at normal temperature and pressure.
Conditions/Materials to avoid:	Oxidizing substances
Hazardous decomposition products:	No information available

Section 11: Toxicological information

No data available for the mixture.
Additional toxicological information on the components of this product

Boric acid:
Acute toxicity (oral): LD50 value of 3,241mg/kg
Skin corrosion/irritation: At 24 and 72 hours, moderate irritation was noted.
Serious eye damage/eye irritation: The substance irritates the human eye.
Reproductive toxicity:
Adverse effects on reproduction of parental animals and development of pups at doses producing no parental toxicity.
Specific target organ toxicity (single exposure):
Causes damage to organs (nervous system, digestion tract)
Specific target organ toxicity (repeated exposure):
Causes damage to organs (kidney) through prolonged or repeated exposure.

Section 12: Ecological information

No data available for the mixture.
Additional toxicological information on the components of this product

Boric acid:
Ecotoxicity: Hazardous to the aquatic environment(acute hazard) was classified into Not classified
Hazardous to the aquatic environment(long-term hazard was classified into Not classified
Persistence and degradability: No data available
Bioaccumulative potential: No data available
Biotransportability: No data available

Section 13: Disposal considerations

Residual waste: Dispose of contents/ container according to all federal, state and local environmental regulations.

Contaminated container: After removing the contents, dispose of contents/ container according to all federal, state and local environmental regulations.

Section 14: Transport information

US DOT, IMDG (sea), ADR/RID (land), ICAO/IATA (air): No classification assigned.

Prior to transport, make sure no leakage is observed from the bottle and stow a cargo without dropping and turning over.

Section 15: Regulatory information

U.S. TSCA Inventory: Boric acid

The composition/ information of ingredients is disclosed according to GHS. Comply with all countries, national and local regulation.

Section 16: Other information

References

1) National Institute of Technology and Evaluation: GHS; http://www.safe.nite.go.jp/ghs/ghs_index.html
2) National Institute of Technology and Evaluation: CHRIP; http://www.nite.go.jp/chem/chrip/chrip_search/systemTop
3) Ministry of Economy, Trade and Industry: GHS Mixture Classification System ver. 2.0

Information included in this document may be changed according to revision of laws and regulations or new discoveries, information, or test results. Although descriptions are based on reference materials, literature, and other information currently available, any values such as quantity and physical/chemical properties or evaluation described in this document are not guaranteed. Notes are provided assuming regular use. When using the material under special conditions, implement safety measures that are suitable for the intended purpose and use.