

DNA-12000 KIT ASSY (P/N 292-36600-91, 292-36600-10, 292-36600-30) includes DNA-12000 Separation Buffer and DNA-12000 Marker solution.

## Safety Data Sheet

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

Product name: DNA-12000 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.

Prevention: May cause damage to organs through prolonged or repeated exposure.

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.

Response: Wear protective gloves/ protective clothing/ eye protection.  
 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 fresh 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<sup>3</sup>(I), STEL 6mg/m<sup>3</sup>(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: 8.2 at 20°C  
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: 1.02 g/mL at 25°C  
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](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](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-12000 KIT ASSY (P/N 292-36600-91, 292-36600-10, 292-36600-30) includes  
DNA-12000 Separation Buffer and DNA-12000 Marker solution.

## Safety Data Sheet

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

Product name: DNA-12000 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: Reproductive toxicity Category 1B

Symbol:



Signal word: Danger  
 Hazard statements: May damage fertility or the unborn child.  
 Prevention: Obtain special instructions before use.  
 Do not handle until all safety precautions have been read and understood.  
 Wear protective gloves/ protective clothing/ eye protection.  
 Response: IF exposed or concerned: Get medical advice/ attention.  
 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.  
 Substances: Boric acid: CAS No. 10043-35-3 <1%

### Section 4: First-aid measures

Inhalation: Remove to uncontaminated area and supply fresh 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 <sup>3</sup> (I), STEL 6mg/m <sup>3</sup> (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:	8.1 at 20°C
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:	1.00g/mL (25°C)
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](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](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.