

Kit components

Product PowerPlex® 1.1 System, 100rxns

Product code DC6091

Substance number	Description	Amount	Symbols
DD208	K562 DNA High Molecular Weight	1	-
DG234	PowerPlex® 1.1 Allelic Ladder Mix	1	-
DG622	Fluorescent Ladder (CXR)	1	-
DK286	PowerPlex® 1.1 10X Primer Pair Mix (Flourescein/TMR) (Hitachi)	1	-
DM221	STR 10X Buffer	1	-
DV436	Gel Tracking Dye	1	T
DV437	Bromophenol Blue Loading Solution	1	T
DG209	GenePrint® TH01 Allele 9.3 (TMR)	1	-

Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

1 Identification of the substance/mixture and of the company/undertaking**Product identifier****Trade name:** K562 DNA High Molecular Weight**Article number:** DD208**Application of the substance / the preparation** Laboratory chemicals**Details of the supplier of the safety data sheet****Manufacturer/Supplier:**

Promega Corporation
2800 Woods Hollow Road
Madison, WI 53711
U.S.A.
1-800-356-9526 or (608)-274-4330

Information department: MSDS author: Regulatory.Affairs@promega.com**Emergency telephone number:**

For Chemical Emergency ONLY (spill, leak, fire, exposure or accident), call CHEMTREC at 1-800-424-9300
For call originating outside the United States dial 001-703-527-3887

2 Composition/information on ingredients**Chemical characterization:** Mixtures**Description:** Mixture of the substances listed below with nonhazardous additions.**Dangerous components:**

1185-53-1	2-Amino-2-(hydroxymethyl)-1,3-propanediolhydrochloride	1.0-5.0%
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Additional information: For the wording of the listed risk phrases refer to section 15.**3 Hazards identification****Classification of the substance or mixture****Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

Not applicable. Product has been classified as non-hazardous.

Information concerning particular hazards for human and environment:

The product does not have to be labelled due to the calculation procedure of international guidelines.

Classification system:

The classification was made according to the latest editions of international substances lists, and is expanded upon by company and technical literature data.

Label elements**Labelling according to EU guidelines:**

Observe the general safety regulations when handling chemicals.

The product is not subject to identification regulations according to directives on hazardous materials.

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USA

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

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Trade name: K562 DNA High Molecular Weight

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Classification system:**NFPA ratings (scale 0 - 4)**

Health = 0

Fire = 0

Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = 0

Fire = 0

Reactivity = 0

OSHA Hazard Overview (Criteria according to 29CFR1910.1200): Not applicable**Target Organ(s):** Not applicable or unknown

* 4 First aid measures

General information: No special measures required.**After inhalation:** Supply fresh air; consult doctor in case of complaints.**After skin contact:** Generally the product does not irritate the skin.**After eye contact:** Rinse opened eye for several minutes under running water.**After swallowing:** If symptoms persist consult doctor.

* 5 Firefighting measures

Suitable extinguishing agents:CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.**Special hazards arising from the substance or mixture** None known**Protective equipment:** No special measures required.

* 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures Not required.**Environmental precautions:** Dilute with plenty of water.**Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Reference to other sections

No dangerous substances are released.

See Section 7 for information on safe handling.

See Section 13 for disposal information.

* 7 Handling and storage

Handling:**Precautions for safe handling** No special measures required.**Information about protection against explosions and fires:** The product is not flammable.**Storage:****Requirements to be met by storerooms and receptacles:** No special requirements.**Information about storage in one common storage facility:** Not required.**Further information about storage conditions:** None.**Specific end use(s)** No further relevant information available.

USA

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Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: K562 DNA High Molecular Weight

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8 Exposure controls/personal protection

Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: The lists that were valid during the creation were used as basis.

Personal protective equipment:

General protective and hygienic measures:

The usual precautionary measures for handling chemicals should be followed.

Breathing equipment: Not required.

Protection of hands:

Protective gloves

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Eye protection: Goggles recommended during refilling.

9 Physical and chemical properties

General Information

Appearance:

Form:	Fluid
Color:	Colorless
Odor:	Characteristic
Odour threshold:	Not determined.

pH-value at 20°C (68 °F): 8

Change in condition

Melting point/Melting range:	0°C (32 °F)
Boiling point/Boiling range:	100°C (212 °F)

Flash point: Not applicable.

Flammability (solid, gaseous): Not applicable.

Ignition temperature:

Decomposition temperature: Not determined.

Auto igniting: Product is not selfigniting.

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:

Lower:	Not determined.
Upper:	Not determined.

Vapor pressure: Not determined.

Density: Not determined.

Relative density Not determined.

Vapour density Not determined.

Evaporation rate Not determined.

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Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: K562 DNA High Molecular Weight

(Contd. of page 3)

**Solubility in / Miscibility with
Water:**

Fully miscible.

Segregation coefficient (n-octanol/water): Not determined.

Viscosity:

Dynamic:

Not determined.

Kinematic:

Not determined.

Solvent content:

Organic solvents:

0.0 %

Water:

97.0 %

Solids content:

10.0 %

Other information

No further relevant information available.

10 Stability and reactivity

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

Acute toxicity:

LD/LC50 values that are relevant for classification: No data available

Primary irritant effect:

on the skin: No irritant effect.

on the eye: Irritating effect.

Sensitization: No sensitizing effects known.

Additional toxicological information:

The product is not subject to classification according to internally approved calculation methods for preparations:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

12 Ecological information

Aquatic toxicity: Not harmful to the aquatic environment

Persistence and degradability: Not available

Behavior in environmental systems:

Bioaccumulative potential: Not known

Ecotoxicological effects:

Remark: Not available

Additional ecological information:

General notes: Generally not hazardous for water

USA

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Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: K562 DNA High Molecular Weight

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13 Disposal considerations

Waste treatment methods

Recommendation:

Disposal should be in accordance with applicable regional, national and local laws and regulations. Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agent: Water, if necessary with cleansing agents.

* 14 Transport information

Contact Promega Safety Department for additional transportation information

Maritime transport IMDG:

Marine pollutant: No

* 15 Regulatory information

Sara

Section 355 (extremely hazardous substances):

None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

TSCA (Toxic Substances Control Act):

All ingredients are listed.

Proposition 65

Chemicals known to cause cancer:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

Carcinogenicity categories

EPA (Environmental Protection Agency)

None of the ingredients are listed.

IARC (International Agency for Research on Cancer)

None of the ingredients are listed.

NTP (National Toxicology Program)

None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)

None of the ingredients are listed.

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Material Safety Data Sheet

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Reviewed on 03/08/2011

Trade name: K562 DNA High Molecular Weight

(Contd. of page 5)

MAK (German Maximum Workplace Concentration)

None of the ingredients are listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

Product related hazard informations:

Observe the general safety regulations when handling chemicals.

The product is not subject to identification regulations according to directives on hazardous materials.

National regulations:**Water hazard class:** Generally not hazardous for water.**16 Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing MSDS:

Promega Corporation

Environmental Health and Safety Department

2800 Woods Hollow Road

Madison, WI

Ph: (608)274-4330

*** Data compared to the previous version altered.**

USA

Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

1 Identification of the substance/mixture and of the company/undertaking

Product identifier

Trade name: PowerPlex® 1.1 Allelic Ladder Mix

Article number: DG234

Application of the substance / the preparation Laboratory chemicals

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Promega Corporation
2800 Woods Hollow Road
Madison, WI 53711
U.S.A.
1-800-356-9526 or (608)-274-4330

Information department: MSDS author: Regulatory.Affairs@promega.com

Emergency telephone number:

For Chemical Emergency ONLY (spill, leak, fire, exposure or accident), call CHEMTREC at 1-800-424-9300
For call originating outside the United States dial 001-703-527-3887

2 Composition/information on ingredients

Chemical characterization: Mixtures

Description: Mixture of the substances listed below with nonhazardous additions.

Dangerous components: Void

Additional information: For the wording of the listed risk phrases refer to section 15.

3 Hazards identification

Classification of the substance or mixture

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

Not applicable. Product has been classified as non-hazardous.

Information concerning particular hazards for human and environment:

The product does not have to be labelled due to the calculation procedure of international guidelines.

Classification system:

The classification was made according to the latest editions of international substances lists, and is expanded upon by company and technical literature data.

Label elements

Labelling according to EU guidelines:

Observe the general safety regulations when handling chemicals.

The product is not subject to identification regulations according to directives on hazardous materials.

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Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: PowerPlex® 1.1 Allelic Ladder Mix

(Contd. of page 1)

Classification system:**NFPA ratings (scale 0 - 4)**

Health = 0

Fire = 0

Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = 0

Fire = 0

Reactivity = 0

OSHA Hazard Overview (Criteria according to 29CFR1910.1200): Not applicable**Target Organ(s):** Not applicable or unknown

* 4 First aid measures

General information: No special measures required.**After inhalation:** Supply fresh air; consult doctor in case of complaints.**After skin contact:** Generally the product does not irritate the skin.**After eye contact:** Rinse opened eye for several minutes under running water.**After swallowing:** If symptoms persist consult doctor.

* 5 Firefighting measures

Suitable extinguishing agents:CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.**Special hazards arising from the substance or mixture** None known**Protective equipment:** No special measures required.

* 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures Not required.**Environmental precautions:** Dilute with plenty of water.**Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Reference to other sections

No dangerous substances are released.

See Section 7 for information on safe handling.

See Section 13 for disposal information.

* 7 Handling and storage

Handling:**Precautions for safe handling** No special measures required.**Information about protection against explosions and fires:** The product is not flammable.**Storage:****Requirements to be met by storerooms and receptacles:** No special requirements.**Information about storage in one common storage facility:** Not required.**Further information about storage conditions:** None.**Specific end use(s)** No further relevant information available.

USA

(Contd. on page 3)

Material Safety Data Sheet

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Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: PowerPlex® 1.1 Allelic Ladder Mix

(Contd. of page 2)

8 Exposure controls/personal protection

Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: The lists that were valid during the creation were used as basis.

Personal protective equipment:

General protective and hygienic measures:

The usual precautionary measures for handling chemicals should be followed.

Breathing equipment: Not required.

Protection of hands:

Protective gloves

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Eye protection: Goggles recommended during refilling.

9 Physical and chemical properties

General Information

Appearance:

Form:	Fluid
Color:	Colorless
Odor:	Characteristic
Odour threshold:	Not determined.

pH-value at 20°C (68 °F): 9

Change in condition

Melting point/Melting range:	0°C (32 °F)
Boiling point/Boiling range:	100°C (212 °F)

Flash point: Not applicable.

Flammability (solid, gaseous): Not applicable.

Ignition temperature:

Decomposition temperature: Not determined.

Auto igniting: Product is not selfigniting.

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:

Lower:	Not determined.
Upper:	Not determined.

Vapor pressure: Not determined.

Density: Not determined.

Relative density Not determined.

Vapour density Not determined.

Evaporation rate Not determined.

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USA

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: PowerPlex® 1.1 Allelic Ladder Mix

(Contd. of page 3)

**Solubility in / Miscibility with
Water:**

Fully miscible.

Segregation coefficient (n-octanol/water): Not determined.

Viscosity:

Dynamic:

Not determined.

Kinematic:

Not determined.

Solvent content:

Organic solvents:

0.0 %

Water:

99.3 %

Solids content:

10.0 %

Other information

No further relevant information available.

10 Stability and reactivity

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

Acute toxicity:

LD/LC50 values that are relevant for classification: No data available

Primary irritant effect:

on the skin: No irritant effect.

on the eye: Irritating effect.

Sensitization: No sensitizing effects known.

Additional toxicological information:

The product is not subject to classification according to internally approved calculation methods for preparations:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

12 Ecological information

Aquatic toxicity: Not harmful to the aquatic environment

Persistence and degradability: Not available

Behavior in environmental systems:

Bioaccumulative potential: Not known

Ecotoxicological effects:

Remark: Not available

Additional ecological information:

General notes: Generally not hazardous for water

USA

(Contd. on page 5)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: PowerPlex® 1.1 Allelic Ladder Mix

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13 Disposal considerations

Waste treatment methods

Recommendation:

Disposal should be in accordance with applicable regional, national and local laws and regulations.
Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

Contact Promega Safety Department for additional transportation information

Maritime transport IMDG:

Marine pollutant: No

15 Regulatory information

Sara

Section 355 (extremely hazardous substances):

None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

TSCA (Toxic Substances Control Act):

All ingredients are listed.

Proposition 65

Chemicals known to cause cancer:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

Carcinogenicity categories

EPA (Environmental Protection Agency)

None of the ingredients are listed.

IARC (International Agency for Research on Cancer)

7647-01-0 | hydrogen chloride

3

NTP (National Toxicology Program)

None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)

7647-01-0 | hydrogen chloride

A4

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Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: PowerPlex® 1.1 Allelic Ladder Mix

(Contd. of page 5)

MAK (German Maximum Workplace Concentration)

None of the ingredients are listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

Product related hazard informations:

Observe the general safety regulations when handling chemicals.

The product is not subject to identification regulations according to directives on hazardous materials.

National regulations:

Class	Share in %
Wasser	99,3
NK	0,1

Water hazard class: Generally not hazardous for water.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing MSDS:

Promega Corporation

Environmental Health and Safety Department

2800 Woods Hollow Road

Madison, WI

Ph: (608) 274-4330

* Data compared to the previous version altered.

USA

Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

* **1 Identification of the substance/mixture and of the company/undertaking**

Product identifier

Trade name: *Fluorescent Ladder (CXR)*

Article number: DG622

Application of the substance / the preparation *Laboratory chemicals*

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

*Promega Corporation
2800 Woods Hollow Road
Madison, WI 53711*

U.S.A.

1-800-356-9526 or (608)-274-4330

Information department: *MSDS author: Regulatory.Affairs@promega.com*

Emergency telephone number:

For Chemical Emergency ONLY (spill, leak, fire, exposure or accident), call CHEMTREC at 1-800-424-9300

For call originating outside the United States dial 001-703-527-3887

2 Composition/information on ingredients

Chemical characterization: *Mixtures*

Description: *Mixture of the substances listed below with nonhazardous additions.*

Dangerous components: *Void*

Additional information: *For the wording of the listed risk phrases refer to section 15.*

* **3 Hazards identification**

Classification of the substance or mixture

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

Not applicable. Product has been classified as non-hazardous.

Information concerning particular hazards for human and environment:

The product does not have to be labelled due to the calculation procedure of international guidelines.

Classification system:

The classification was made according to the latest editions of international substances lists, and is expanded upon by company and technical literature data.

Label elements

Labelling according to EU guidelines:

Observe the general safety regulations when handling chemicals.

The product is not subject to identification regulations according to directives on hazardous materials.

(Contd. on page 2)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: Fluorescent Ladder (CXR)

(Contd. of page 1)

Classification system:**NFPA ratings (scale 0 - 4)**

Health = 0

Fire = 0

Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = 0

Fire = 0

Reactivity = 0

OSHA Hazard Overview (Criteria according to 29CFR1910.1200): Not applicable**Target Organ(s):** Not applicable or unknown

* **4 First aid measures**

General information: No special measures required.**After inhalation:** Supply fresh air; consult doctor in case of complaints.**After skin contact:** Generally the product does not irritate the skin.**After eye contact:** Rinse opened eye for several minutes under running water.**After swallowing:** If symptoms persist consult doctor.

* **5 Firefighting measures**

Suitable extinguishing agents:CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.**Special hazards arising from the substance or mixture** None known**Protective equipment:** No special measures required.

* **6 Accidental release measures**

Personal precautions, protective equipment and emergency procedures Not required.**Environmental precautions:** Dilute with plenty of water.**Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Reference to other sections

No dangerous substances are released.

See Section 7 for information on safe handling.

See Section 13 for disposal information.

* **7 Handling and storage**

Handling:**Precautions for safe handling** No special measures required.**Information about protection against explosions and fires:** The product is not flammable.**Storage:****Requirements to be met by storerooms and receptacles:** No special requirements.**Information about storage in one common storage facility:** Not required.**Further information about storage conditions:** None.**Specific end use(s)** No further relevant information available.

USA

(Contd. on page 3)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: *Fluorescent Ladder (CXR)*

(Contd. of page 2)

8 Exposure controls/personal protection

Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: The lists that were valid during the creation were used as basis.

Personal protective equipment:

General protective and hygienic measures:

The usual precautionary measures for handling chemicals should be followed.

Breathing equipment: Not required.

Protection of hands:

Protective gloves

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Eye protection: Goggles recommended during refilling.

9 Physical and chemical properties

General Information

Appearance:

Form:	Fluid
Color:	Colorless
Odor:	Characteristic
Odour threshold:	Not determined.

pH-value at 20°C (68 °F): 7

Change in condition

Melting point/Melting range:	0°C (32 °F)
Boiling point/Boiling range:	100°C (212 °F)

Flash point: Not applicable.

Flammability (solid, gaseous): Not applicable.

Ignition temperature:

Decomposition temperature: Not determined.

Auto igniting: Product is not selfigniting.

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:

Lower:	Not determined.
Upper:	Not determined.

Vapor pressure: Not determined.

Density: Not determined.

Relative density Not determined.

Vapour density Not determined.

Evaporation rate Not determined.

(Contd. on page 4)

USA

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: **Fluorescent Ladder (CXR)**

(Contd. of page 3)

Solubility in / Miscibility with Water:

Fully miscible.

Segregation coefficient (n-octanol/water): Not determined.

Viscosity:

Dynamic:

Not determined.

Kinematic:

Not determined.

Solvent content:

Organic solvents:

0.0 %

Water:

99.9 %

Solids content:

10.0 %

Other information

No further relevant information available.

10 Stability and reactivity

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

Acute toxicity:

LD/LC50 values that are relevant for classification: No data available

Primary irritant effect:

on the skin: No irritant effect.

on the eye: Irritating effect.

Sensitization: No sensitizing effects known.

Additional toxicological information:

The product is not subject to classification according to internally approved calculation methods for preparations:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

12 Ecological information

Aquatic toxicity: Not harmful to the aquatic environment

Persistence and degradability Not available

Behavior in environmental systems:

Bioaccumulative potential Not known

Ecotoxicological effects:

Remark: Not available

Additional ecological information:

General notes: Generally not hazardous for water

USA

(Contd. on page 5)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: **Fluorescent Ladder (CXR)**

(Contd. of page 4)

13 Disposal considerations

Waste treatment methods

Recommendation:

Disposal should be in accordance with applicable regional, national and local laws and regulations.
Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

Contact Promega Safety Department for additional transportation information

DOT regulations: Not regulated

Hazard class: -

Land transport ADR/RID (cross-border): Not regulated

ADR/RID class: -

UN-Number: Not regulated

Maritime transport IMDG:

IMDG Class: -

Marine pollutant: No

Air transport ICAO-TI and IATA-DGR: Not regulated

ICAO/IATA Class: -

15 Regulatory information

Sara

Section 355 (extremely hazardous substances):

None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

TSCA (Toxic Substances Control Act):

7732-18-5 | water, pure

Proposition 65

Chemicals known to cause cancer:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

(Contd. on page 6)

USA

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: Fluorescent Ladder (CXR)

(Contd. of page 5)

Carcinogenicity categories

EPA (Environmental Protection Agency)

None of the ingredients are listed.

IARC (International Agency for Research on Cancer)

None of the ingredients are listed.

NTP (National Toxicology Program)

None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)

None of the ingredients are listed.

MAK (German Maximum Workplace Concentration)

None of the ingredients are listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

Product related hazard informations:

Observe the general safety regulations when handling chemicals.

The product is not subject to identification regulations according to directives on hazardous materials.

National regulations:

Water hazard class: Generally not hazardous for water.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing MSDS:

Promega Corporation

Environmental Health and Safety Department

2800 Woods Hollow Road

Madison, WI

Ph: (608) 274-4330

* Data compared to the previous version altered.

Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

1 Identification of the substance/mixture and of the company/undertaking

Product identifier

Trade name: PowerPlex® 1.1 10X Primer Pair Mix

Article number: DK286

Application of the substance / the preparation Laboratory chemicals

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Promega Corporation
2800 Woods Hollow Road
Madison, WI 53711
U.S.A.
1-800-356-9526 or (608)-274-4330

Information department: MSDS author: Regulatory.Affairs@promega.com

Emergency telephone number:

For Chemical Emergency ONLY (spill, leak, fire, exposure or accident), call CHEMTREC at 1-800-424-9300
For call originating outside the United States dial 001-703-527-3887

2 Composition/information on ingredients

Chemical characterization: Mixtures

Description: Mixture of the substances listed below with nonhazardous additions.

Dangerous components: Void

Additional information: For the wording of the listed risk phrases refer to section 15.

3 Hazards identification

Classification of the substance or mixture

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

Not applicable. Product has been classified as non-hazardous.

Information concerning particular hazards for human and environment:

The product does not have to be labelled due to the calculation procedure of international guidelines.

Classification system:

The classification was made according to the latest editions of international substances lists, and is expanded upon by company and technical literature data.

Label elements

Labelling according to EU guidelines:

Observe the general safety regulations when handling chemicals.

The product is not subject to identification regulations according to directives on hazardous materials.

(Contd. on page 2)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: PowerPlex® 1.1 10X Primer Pair Mix

(Contd. of page 1)

Classification system:**NFPA ratings (scale 0 - 4)**

Health = 0

Fire = 0

Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = 0

Fire = 0

Reactivity = 0

OSHA Hazard Overview (Criteria according to 29CFR1910.1200): Not applicable**Target Organ(s):** Not applicable or unknown

* 4 First aid measures

General information: No special measures required.**After inhalation:** Supply fresh air; consult doctor in case of complaints.**After skin contact:** Generally the product does not irritate the skin.**After eye contact:** Rinse opened eye for several minutes under running water.**After swallowing:** If symptoms persist consult doctor.

* 5 Firefighting measures

Suitable extinguishing agents:CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.**Special hazards arising from the substance or mixture** None known**Protective equipment:** No special measures required.

* 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures Not required.**Environmental precautions:** Dilute with plenty of water.**Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Reference to other sections

No dangerous substances are released.

See Section 7 for information on safe handling.

See Section 13 for disposal information.

* 7 Handling and storage

Handling:**Precautions for safe handling** No special measures required.**Information about protection against explosions and fires:** The product is not flammable.**Storage:****Requirements to be met by storerooms and receptacles:** No special requirements.**Information about storage in one common storage facility:** Not required.**Further information about storage conditions:** None.**Specific end use(s)** No further relevant information available.

USA

(Contd. on page 3)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: PowerPlex® 1.1 10X Primer Pair Mix

(Contd. of page 2)

8 Exposure controls/personal protection

Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: The lists that were valid during the creation were used as basis.

Personal protective equipment:

General protective and hygienic measures:

The usual precautionary measures for handling chemicals should be followed.

Breathing equipment: Not required.

Protection of hands:

Protective gloves

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Eye protection: Goggles recommended during refilling.

9 Physical and chemical properties

General Information

Appearance:

Form:	Fluid
Color:	Colorless
Odor:	Characteristic
Odour threshold:	Not determined.

pH-value at 20°C (68 °F): 8

Change in condition

Melting point/Melting range:	0°C (32 °F)
Boiling point/Boiling range:	100°C (212 °F)

Flash point: Not applicable.

Flammability (solid, gaseous): Not applicable.

Ignition temperature:

Decomposition temperature: Not determined.

Auto igniting: Product is not selfigniting.

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:

Lower:	Not determined.
Upper:	Not determined.

Vapor pressure: Not determined.

Density: Not determined.

Relative density Not determined.

Vapour density Not determined.

Evaporation rate Not determined.

(Contd. on page 4)

USA

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: PowerPlex® 1.1 10X Primer Pair Mix

(Contd. of page 3)

**Solubility in / Miscibility with
Water:**

Fully miscible.

Segregation coefficient (n-octanol/water): Not determined.

Viscosity:

Dynamic:

Not determined.

Kinematic:

Not determined.

Solvent content:

Organic solvents:

0.0 %

Water:

98.9 %

Solids content:

10.0 %

Other information

No further relevant information available.

10 Stability and reactivity

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

Acute toxicity:

LD/LC50 values that are relevant for classification: No data available

Primary irritant effect:

on the skin: No irritant effect.

on the eye: Irritating effect.

Sensitization: No sensitizing effects known.

Additional toxicological information:

The product is not subject to classification according to internally approved calculation methods for preparations:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

12 Ecological information

Aquatic toxicity: Not harmful to the aquatic environment

Persistence and degradability: Not available

Behavior in environmental systems:

Bioaccumulative potential: Not known

Ecotoxicological effects:

Remark: Not available

Additional ecological information:

General notes: Generally not hazardous for water

USA

(Contd. on page 5)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: PowerPlex® 1.1 10X Primer Pair Mix

(Contd. of page 4)

13 Disposal considerations

Waste treatment methods

Recommendation:

Disposal should be in accordance with applicable regional, national and local laws and regulations. Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

Contact Promega Safety Department for additional transportation information

DOT regulations: Not regulated

Hazard class: -

Land transport ADR/RID (cross-border): Not regulated

ADR/RID class: -

UN-Number: Not regulated

Maritime transport IMDG:

IMDG Class: -

Marine pollutant: No

Air transport ICAO-TI and IATA-DGR: Not regulated

ICAO/IATA Class: -

15 Regulatory information

Sara

Section 355 (extremely hazardous substances):

None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

TSCA (Toxic Substances Control Act):

7732-18-5 | water, pure

Proposition 65

Chemicals known to cause cancer:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

(Contd. on page 6)

USA

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: PowerPlex® 1.1 10X Primer Pair Mix

(Contd. of page 5)

Carcinogenicity categories

EPA (Environmental Protection Agency)

None of the ingredients are listed.

IARC (International Agency for Research on Cancer)

None of the ingredients are listed.

NTP (National Toxicology Program)

None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)

None of the ingredients are listed.

MAK (German Maximum Workplace Concentration)

None of the ingredients are listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

Product related hazard informations:

Observe the general safety regulations when handling chemicals.

The product is not subject to identification regulations according to directives on hazardous materials.

National regulations:

Water hazard class: Generally not hazardous for water.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing MSDS:

Promega Corporation

Environmental Health and Safety Department

2800 Woods Hollow Road

Madison, WI

Ph: (608) 274-4330

* Data compared to the previous version altered.

Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

1 Identification of the substance/mixture and of the company/undertaking**Product identifier****Trade name:** STR 10X Buffer**Article number:** DM221**Application of the substance / the preparation** Laboratory chemicals**Details of the supplier of the safety data sheet****Manufacturer/Supplier:**

Promega Corporation
2800 Woods Hollow Road
Madison, WI 53711
U.S.A.
1-800-356-9526 or (608)-274-4330

Information department: MSDS author: Regulatory.Affairs@promega.com**Emergency telephone number:**

For Chemical Emergency ONLY (spill, leak, fire, exposure or accident), call CHEMTREC at 1-800-424-9300
For call originating outside the United States dial 001-703-527-3887

2 Composition/information on ingredients**Chemical characterization: Mixtures****Description:** Mixture of the substances listed below with nonhazardous additions.**Dangerous components:**

77-86-1	2-Amino-2-(hydroxymethyl)-1,3-propanediol	<2.00%
9002-93-1	Polyethylene glycol tert-octylphenyl ether	<2.00%

Additional information: For the wording of the listed risk phrases refer to section 15.**3 Hazards identification****Classification of the substance or mixture****Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

Not applicable. Product has been classified as non-hazardous.

Information concerning particular hazards for human and environment:

The product does not have to be labelled due to the calculation procedure of international guidelines.

Classification system:

The classification was made according to the latest editions of international substances lists, and is expanded upon by company and technical literature data.

Label elements**Labelling according to EU guidelines:**

Observe the general safety regulations when handling chemicals.

The product is not subject to identification regulations according to directives on hazardous materials.

(Contd. on page 2)

USA

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: STR 10X Buffer

(Contd. of page 1)

Classification system:**NFPA ratings (scale 0 - 4)**

Health = 0

Fire = 0

Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = 0

Fire = 0

Reactivity = 0

OSHA Hazard Overview (Criteria according to 29CFR1910.1200): Not applicable**Target Organ(s):** Not applicable or unknown

* **4 First aid measures**

General information: No special measures required.**After inhalation:** Supply fresh air; consult doctor in case of complaints.**After skin contact:** Generally the product does not irritate the skin.**After eye contact:** Rinse opened eye for several minutes under running water.**After swallowing:** If symptoms persist consult doctor.

* **5 Firefighting measures**

Suitable extinguishing agents:CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.**Special hazards arising from the substance or mixture** None known**Protective equipment:** No special measures required.

* **6 Accidental release measures**

Personal precautions, protective equipment and emergency procedures Not required.**Environmental precautions:** Do not allow to enter sewers/ surface or ground water.**Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Reference to other sections

No dangerous substances are released.

See Section 7 for information on safe handling.

See Section 13 for disposal information.

* **7 Handling and storage**

Handling:**Precautions for safe handling** No special measures required.**Information about protection against explosions and fires:** The product is not flammable.**Storage:****Requirements to be met by storerooms and receptacles:** No special requirements.**Information about storage in one common storage facility:** Not required.**Further information about storage conditions:** None.**Specific end use(s)** No further relevant information available.

USA

(Contd. on page 3)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: STR 10X Buffer

(Contd. of page 2)

8 Exposure controls/personal protection

Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: The lists that were valid during the creation were used as basis.

Personal protective equipment:

General protective and hygienic measures:

The usual precautionary measures for handling chemicals should be followed.

Breathing equipment: Not required.

Protection of hands:

Protective gloves

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Eye protection: Goggles recommended during refilling.

9 Physical and chemical properties

General Information

Appearance:

Form:	Fluid
Color:	Colorless
Odor:	Characteristic
Odour threshold:	Not determined.

pH-value at 20°C (68 °F): 9

Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	100°C (212 °F)

Flash point: Not applicable.

Flammability (solid, gaseous): Not applicable.

Ignition temperature:

Decomposition temperature: Not determined.

Auto igniting: Product is not selfigniting.

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:

Lower:	Not determined.
Upper:	Not determined.

Vapor pressure: Not determined.

Density:	Not determined.
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.

(Contd. on page 4)

USA

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: STR 10X Buffer

(Contd. of page 3)

Solubility in / Miscibility with Water:

Not miscible or difficult to mix.

Segregation coefficient (n-octanol/water): Not determined.

Viscosity:

Dynamic:

Not determined.

Kinematic:

Not determined.

Solvent content:

Organic solvents:

0.0 %

Water:

92.8 %

Solids content:

100.0 %

Other information

No further relevant information available.

10 Stability and reactivity

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

Acute toxicity:

LD/LC50 values that are relevant for classification: No data available

Primary irritant effect:

on the skin: No irritant effect.

on the eye: Irritating effect.

Sensitization: No sensitizing effects known.

Additional toxicological information:

The product is not subject to classification according to internally approved calculation methods for preparations:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

12 Ecological information

Aquatic toxicity: Not harmful to the aquatic environment

Persistence and degradability: Not available

Behavior in environmental systems:

Bioaccumulative potential: Not known

Ecotoxicological effects:

Remark: Not available

Additional ecological information:

General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

USA

(Contd. on page 5)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: STR 10X Buffer

(Contd. of page 4)

13 Disposal considerations

Waste treatment methods

Recommendation:

Disposal should be in accordance with applicable regional, national and local laws and regulations.
Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

14 Transport information

Contact Promega Safety Department for additional transportation information

DOT regulations: Not regulated

Hazard class: -

Land transport ADR/RID (cross-border): Not regulated

ADR/RID class: -

UN-Number: Not regulated

Maritime transport IMDG:

IMDG Class: -

Marine pollutant: No

Air transport ICAO-TI and IATA-DGR: Not regulated

ICAO/IATA Class: -

15 Regulatory information

Sara

Section 355 (extremely hazardous substances):

7647-01-0 | hydrogen chloride

Section 313 (Specific toxic chemical listings):

7647-01-0 | hydrogen chloride

TSCA (Toxic Substances Control Act):

7447-40-7 | potassium chloride

77-86-1 | 2-Amino-2-(hydroxymethyl)-1,3-propanediol

9002-93-1 | Polyethylene glycol tert-octylphenyl ether

7786-30-3 | Magnesium Chloride

7647-01-0 | hydrogen chloride

7732-18-5 | water, pure

Proposition 65

Chemicals known to cause cancer:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

(Contd. on page 6)

USA

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: STR 10X Buffer

(Contd. of page 5)

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

Cancerogenity categories**EPA (Environmental Protection Agency)**

None of the ingredients are listed.

IARC (International Agency for Research on Cancer)

7647-01-0 | hydrogen chloride

3

NTP (National Toxicology Program)

None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)

7647-01-0 | hydrogen chloride

A4

MAK (German Maximum Workplace Concentration)

None of the ingredients are listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

Product related hazard informations:

Observe the general safety regulations when handling chemicals.

The product is not subject to identification regulations according to directives on hazardous materials.

National regulations:

Class	Share in %
Wasser	92.9
NK	1.0

Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.**16 Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing MSDS:

Promega Corporation

Environmental Health and Safety Department

2800 Woods Hollow Road

Madison, WI

Ph: (608)274-4330

* Data compared to the previous version altered.

Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

1 Identification of the substance/mixture and of the company/undertaking

Product identifier

Trade name: Gel Tracking Dye

Article number: DV436

Application of the substance / the preparation Laboratory chemicals

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Promega Corporation
2800 Woods Hollow Road
Madison, WI 53711
U.S.A.
1-800-356-9526 or (608)-274-4330

Information department: MSDS author: Regulatory.Affairs@promega.com

Emergency telephone number:

For Chemical Emergency ONLY (spill, leak, fire, exposure or accident), call CHEMTREC at 1-800-424-9300
For call originating outside the United States dial 001-703-527-3887

2 Composition/information on ingredients

Chemical characterization: Mixtures

Description: Mixture of the substances listed below with nonhazardous additions.

Dangerous components:

75-12-7 formamide	75-100%
-------------------	---------

Additional information: For the wording of the listed risk phrases refer to section 15.

3 Hazards identification

Classification of the substance or mixture

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Toxic

May cause harm to the unborn child.



Harmful

Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.



Irritant

Irritating to eyes and skin.

Classification system:

The classification was made according to the latest editions of international substances lists, and is expanded upon by company and technical literature data.

(Contd. on page 2)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: Gel Tracking Dye

(Contd. of page 1)

Label elements**Labelling according to EU guidelines:**

The product has been classified and marked in accordance with directives on hazardous materials.

Code letter and hazard designation of product:

T Toxic

Hazard-determining components of labelling:

formamide

Risk phrases:

May cause harm to the unborn child.

Irritating to eyes and skin.

Also harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.

Safety phrases:

When using do not eat or drink.

Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Wear suitable protective clothing, gloves and eye/face protection.

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

This material and its container must be disposed of as hazardous waste.

Classification system:**NFPA ratings (scale 0 - 4)**

Health = 2

Fire = 1

Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = 2

Fire = 1

Reactivity = 0

OSHA Hazard Overview (Criteria according to 29CFR1910.1200):

Toxic

Irritant

Reproductive Hazard

Primary route(s) of entry:

Dermal

Inhalation

Oral

Target Organ(s):

May affect Nervous system (Neurotoxin)

May affect Reproductive System (Mutagen, Teratogen)

Affects Blood (Hematopoietic system)

Risk of damage to eyes

* 4 First aid measures

After inhalation: Supply fresh air; consult doctor in case of complaints.

After skin contact:

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

(Contd. on page 3)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: Gel Tracking Dye

(Contd. of page 2)

After swallowing: If symptoms persist consult doctor.

5 Firefighting measures

Suitable extinguishing agents:

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Special hazards arising from the substance or mixture None known

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures Wear protective clothing.

Environmental precautions:

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Reference to other sections

See Section 7 for information on safe handling.

See Section 13 for disposal information.

7 Handling and storage

Handling:

Precautions for safe handling

Keep receptacles tightly sealed.

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Information about protection against explosions and fires: No special measures required.

Storage:

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Not required.

Further information about storage conditions: Keep receptacle tightly sealed.

Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

Components with limit values that require monitoring at the workplace:

75-12-7 formamide

REL	15 mg/m ³ , 10 ppm
	Skin
TLV	18 mg/m ³ , 10 ppm
	Skin

Additional information: The lists that were valid during the creation were used as basis.

Personal protective equipment:

General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

(Contd. on page 4)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: Gel Tracking Dye

(Contd. of page 3)

Avoid contact with the eyes and skin.

Pregnant women should strictly avoid inhalation or skin contact.

Do not eat or drink while working.

Clean skin thoroughly immediately after handling the product.

Ensure that washing facilities are available at the work place.

Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Protection of hands:

Protective gloves

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Eye protection: *Tightly sealed goggles*

9 Physical and chemical properties

General Information

Appearance:

Form:	Fluid
Color:	Colorless
Odor:	Characteristic
Odour threshold:	Not determined.

pH-value: Not determined.

Change in condition

Melting point/Melting range:	2.5°C (37 °F)
Boiling point/Boiling range:	210°C (410 °F)

Flash point: > 100°C (> 212 °F)

Flammability (solid, gaseous): Not applicable.

Ignition temperature:

Decomposition temperature: Not determined.

Auto igniting: Product is not selfigniting.

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:

Lower:	Not determined.
Upper:	Not determined.

Vapor pressure at 20°C (68 °F): 0.03 hPa

Density at 20°C (68 °F): 1.1339 g/cm³ (9.462 lbs/gal)

Relative density Not determined.

Vapour density Not determined.

Evaporation rate Not determined.

Solubility in / Miscibility with

Water: Fully miscible.

(Contd. on page 5)

USA

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: Gel Tracking Dye

(Contd. of page 4)

Segregation coefficient (n-octanol/water): Not determined.

Viscosity:**Dynamic:** Not determined.**Kinematic:** Not determined.**Solvent content:****Organic solvents:** 95.0 %**Water:** 4.9 %**VOC content:** 95.0 %**Solids content:** 0.1 %**Other information** No further relevant information available.

10 Stability and reactivity

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.**Incompatible materials:** No further relevant information available.**Hazardous decomposition products:**

Nitrogen oxides

Carbon monoxide and carbon dioxide

Ammonia

11 Toxicological information

Acute toxicity:**LD/LC50 values that are relevant for classification:****75-12-7 formamide**

Oral LD50 5570 mg/kg (Rat)

Irritation of eyes acute 100 mg (Rabbit)

Severe

Primary irritant effect:**on the skin:** Irritant to skin and mucous membranes.**on the eye:** Irritating effect.**Sensitization:** No sensitizing effects known.**Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Irritant

12 Ecological information

Aquatic toxicity: Not harmful to the aquatic environment**Persistence and degradability** Not available**Behavior in environmental systems:****Bioaccumulative potential** Not known**Ecotoxicological effects:****Remark:** Not available**Additional ecological information:****General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water

(Contd. on page 6)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: Gel Tracking Dye

(Contd. of page 5)

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

13 Disposal considerations

Waste treatment methods

Recommendation:

Disposal should be in accordance with applicable regional, national and local laws and regulations.
Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

Contact Promega Safety Department for additional transportation information

DOT regulations: Not regulated

Hazard class: -

Land transport ADR/RID (cross-border): Not regulated

ADR/RID class: -

UN-Number: Not regulated

Maritime transport IMDG:

IMDG Class: -

Marine pollutant: No

Air transport ICAO-TI and IATA-DGR: Not regulated

ICAO/IATA Class: -

15 Regulatory information

Sara

Section 355 (extremely hazardous substances):

None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

TSCA (Toxic Substances Control Act):

All ingredients are listed.

Proposition 65

Chemicals known to cause cancer:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

(Contd. on page 7)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: Gel Tracking Dye

(Contd. of page 6)

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

Carcinogenicity categories

EPA (Environmental Protection Agency)

None of the ingredients are listed.

IARC (International Agency for Research on Cancer)

None of the ingredients are listed.

NTP (National Toxicology Program)

None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)

None of the ingredients are listed.

MAK (German Maximum Workplace Concentration)

None of the ingredients are listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

Product related hazard informations:

The product has been classified and marked in accordance with directives on hazardous materials.

Hazard symbols:

T Toxic

Hazard-determining components of labelling:

formamide

Risk phrases:

May cause harm to the unborn child.

Irritating to eyes and skin.

Also harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.

Safety phrases:

When using do not eat or drink.

Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Wear suitable protective clothing, gloves and eye/face protection.

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

This material and its container must be disposed of as hazardous waste.

National regulations:

Class	Share in %
Wasser	4.9
NK	95.0

Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.

USA

(Contd. on page 8)

Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: Gel Tracking Dye

(Contd. of page 7)

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing MSDS:

Promega Corporation

Environmental Health and Safety Department

2800 Woods Hollow Road

Madison, WI

Ph: (608)274-4330

*** Data compared to the previous version altered.**

USA

Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

1 Identification of the substance/mixture and of the company/undertaking

Product identifier

Trade name: Bromophenol Blue Loading Solution

Article number: DV437

Application of the substance / the preparation Laboratory chemicals

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Promega Corporation
2800 Woods Hollow Road
Madison, WI 53711
U.S.A.
1-800-356-9526 or (608)-274-4330

Information department: MSDS author: Regulatory.Affairs@promega.com

Emergency telephone number:

For Chemical Emergency ONLY (spill, leak, fire, exposure or accident), call CHEMTREC at 1-800-424-9300
For call originating outside the United States dial 001-703-527-3887

2 Composition/information on ingredients

Chemical characterization: Mixtures

Description: Mixture of the substances listed below with nonhazardous additions.

Dangerous components:

75-12-7 formamide	75-100%
-------------------	---------

Additional information: For the wording of the listed risk phrases refer to section 15.

3 Hazards identification

Classification of the substance or mixture

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Toxic

May cause harm to the unborn child.



Harmful

Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.



Irritant

Irritating to eyes and skin.

Classification system:

The classification was made according to the latest editions of international substances lists, and is expanded upon by company and technical literature data.

(Contd. on page 2)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: Bromophenol Blue Loading Solution

(Contd. of page 1)

Label elements**Labelling according to EU guidelines:**

The product has been classified and marked in accordance with directives on hazardous materials.

Code letter and hazard designation of product:

T Toxic

Hazard-determining components of labelling:

formamide

Risk phrases:

May cause harm to the unborn child.

Irritating to eyes and skin.

Also harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.

Safety phrases:

When using do not eat or drink.

Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Wear suitable protective clothing, gloves and eye/face protection.

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

This material and its container must be disposed of as hazardous waste.

Classification system:**NFPA ratings (scale 0 - 4)**

Health = 2

Fire = 1

Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = 2

Fire = 1

Reactivity = 0

OSHA Hazard Overview (Criteria according to 29CFR1910.1200):

Toxic

Irritant

Reproductive Hazard

Primary route(s) of entry:

Dermal

Inhalation

Oral

Target Organ(s):

May affect Nervous system (Neurotoxin)

May affect Reproductive System (Mutagen, Teratogen)

Affects Blood (Hematopoietic system)

Risk of damage to eyes

* 4 First aid measures

After inhalation: Supply fresh air; consult doctor in case of complaints.

After skin contact:

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

(Contd. on page 3)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: Bromophenol Blue Loading Solution

(Contd. of page 2)

After swallowing: If symptoms persist consult doctor.

5 Firefighting measures

Suitable extinguishing agents:

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Special hazards arising from the substance or mixture None known

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures Wear protective clothing.

Environmental precautions:

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Reference to other sections

See Section 7 for information on safe handling.

See Section 13 for disposal information.

7 Handling and storage

Handling:

Precautions for safe handling

Keep receptacles tightly sealed.

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Information about protection against explosions and fires: No special measures required.

Storage:

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Not required.

Further information about storage conditions: Keep receptacle tightly sealed.

Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

Components with limit values that require monitoring at the workplace:

75-12-7 formamide

REL	15 mg/m ³ , 10 ppm
	Skin
TLV	18 mg/m ³ , 10 ppm
	Skin

Additional information: The lists that were valid during the creation were used as basis.

Personal protective equipment:

General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

(Contd. on page 4)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: Bromophenol Blue Loading Solution

(Contd. of page 3)

Avoid contact with the eyes and skin.

Pregnant women should strictly avoid inhalation or skin contact.

Do not eat or drink while working.

Clean skin thoroughly immediately after handling the product.

Ensure that washing facilities are available at the work place.

Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Protection of hands:

Protective gloves

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Eye protection: *Tightly sealed goggles*

9 Physical and chemical properties

General Information

Appearance:

Form:	Fluid
Color:	Colorless
Odor:	Characteristic
Odour threshold:	Not determined.

pH-value: Not determined.

Change in condition

Melting point/Melting range:	2.5°C (37 °F)
Boiling point/Boiling range:	210°C (410 °F)

Flash point: > 100°C (> 212 °F)

Flammability (solid, gaseous): Not applicable.

Ignition temperature:

Decomposition temperature: Not determined.

Auto igniting: Product is not selfigniting.

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:

Lower:	Not determined.
Upper:	Not determined.

Vapor pressure at 20°C (68 °F): 0.03 hPa

Density at 20°C (68 °F): 1.1339 g/cm³ (9.462 lbs/gal)

Relative density Not determined.

Vapour density Not determined.

Evaporation rate Not determined.

Solubility in / Miscibility with

Water: Fully miscible.

(Contd. on page 5)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: Bromophenol Blue Loading Solution

(Contd. of page 4)

Segregation coefficient (n-octanol/water): Not determined.

Viscosity:

Dynamic: Not determined.

Kinematic: Not determined.

Solvent content:

Organic solvents: 95.0 %

Water: 4.9 %

VOC content: 95.0 %

Solids content: 0.1 %

Other information No further relevant information available.

10 Stability and reactivity

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

Acute toxicity:

LD/LC50 values that are relevant for classification:

75-12-7 formamide

Oral	LD50	5570 mg/kg (Rat)
Irritation of eyes	acute	100 mg (Rabbit)
		Severe

Primary irritant effect:

on the skin: Irritant to skin and mucous membranes.

on the eye: Irritating effect.

Sensitization: No sensitizing effects known.

Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Irritant

* 12 Ecological information

Aquatic toxicity: Not harmful to the aquatic environment

Persistence and degradability Not available

Behavior in environmental systems:

Bioaccumulative potential Not known

Ecotoxic effects:

Remark: Not available

Additional ecological information:

General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

USA

(Contd. on page 6)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: Bromophenol Blue Loading Solution

(Contd. of page 5)

13 Disposal considerations

Waste treatment methods

Recommendation:

Disposal should be in accordance with applicable regional, national and local laws and regulations. Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

Contact Promega Safety Department for additional transportation information

DOT regulations: Not regulated

Hazard class: -

Land transport ADR/RID (cross-border): Not regulated

ADR/RID class: -

UN-Number: Not regulated

Maritime transport IMDG:

IMDG Class: -

Marine pollutant: No

Air transport ICAO-TI and IATA-DGR: Not regulated

ICAO/IATA Class: -

15 Regulatory information

Sara

Section 355 (extremely hazardous substances):

None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

TSCA (Toxic Substances Control Act):

All ingredients are listed.

Proposition 65

Chemicals known to cause cancer:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

(Contd. on page 7)

USA

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: Bromophenol Blue Loading Solution

(Contd. of page 6)

Carcinogenicity categories

EPA (Environmental Protection Agency)

None of the ingredients are listed.

IARC (International Agency for Research on Cancer)

None of the ingredients are listed.

NTP (National Toxicology Program)

None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)

None of the ingredients are listed.

MAK (German Maximum Workplace Concentration)

None of the ingredients are listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

Product related hazard informations:

The product has been classified and marked in accordance with directives on hazardous materials.

Hazard symbols:

T Toxic

Hazard-determining components of labelling:

formamide

Risk phrases:

May cause harm to the unborn child.

Irritating to eyes and skin.

Also harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.

Safety phrases:

When using do not eat or drink.

Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Wear suitable protective clothing, gloves and eye/face protection.

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

This material and its container must be disposed of as hazardous waste.

National regulations:

Class	Share in %
Wasser	4.9
NK	95.0

Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing MSDS:

Promega Corporation

Environmental Health and Safety Department

(Contd. on page 8)

Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: Bromophenol Blue Loading Solution

2800 Woods Hollow Road
Madison, WI
Ph: (608)274-4330

*** Data compared to the previous version altered.**

(Contd. of page 7)

USA

Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

1 Identification of the substance/mixture and of the company/undertaking**Product identifier****Trade name:** GenePrint® TH01 Allele 9.3 (TMR)**Article number:** DG209**Application of the substance / the preparation** Laboratory chemicals**Details of the supplier of the safety data sheet****Manufacturer/Supplier:**

Promega Corporation
2800 Woods Hollow Road
Madison, WI 53711
U.S.A.
1-800-356-9526 or (608)-274-4330

Information department: MSDS author: Regulatory.Affairs@promega.com**Emergency telephone number:**

For Chemical Emergency ONLY (spill, leak, fire, exposure or accident), call CHEMTREC at 1-800-424-9300
For call originating outside the United States dial 001-703-527-3887

2 Composition/information on ingredients**Chemical characterization: Mixtures****Description:** Mixture of the substances listed below with nonhazardous additions.**Dangerous components:**

9002-93-1	Polyethylene glycol tert-octylphenyl ether	<1.00%
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Additional information: For the wording of the listed risk phrases refer to section 15.**3 Hazards identification****Classification of the substance or mixture****Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

Not applicable. Product has been classified as non-hazardous.

Information concerning particular hazards for human and environment:

The product does not have to be labelled due to the calculation procedure of international guidelines.

Classification system:

The classification was made according to the latest editions of international substances lists, and is expanded upon by company and technical literature data.

Label elements**Labelling according to EU guidelines:**

Observe the general safety regulations when handling chemicals.

The product is not subject to identification regulations according to directives on hazardous materials.

(Contd. on page 2)

USA

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: GenePrint® TH01 Allele 9.3 (TMR)

(Contd. of page 1)

Classification system:**NFPA ratings (scale 0 - 4)**

Health = 0

Fire = 0

Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = 0

Fire = 0

Reactivity = 0

OSHA Hazard Overview (Criteria according to 29CFR1910.1200): Not applicable**Target Organ(s):** Not applicable or unknown

* 4 First aid measures

General information: No special measures required.**After inhalation:** Supply fresh air; consult doctor in case of complaints.**After skin contact:** Generally the product does not irritate the skin.**After eye contact:** Rinse opened eye for several minutes under running water.**After swallowing:** If symptoms persist consult doctor.

* 5 Firefighting measures

Suitable extinguishing agents:CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.**Special hazards arising from the substance or mixture** None known**Protective equipment:** No special measures required.

* 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures Not required.**Environmental precautions:** Dilute with plenty of water.**Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Reference to other sections

No dangerous substances are released.

See Section 7 for information on safe handling.

See Section 13 for disposal information.

* 7 Handling and storage

Handling:**Precautions for safe handling** No special measures required.**Information about protection against explosions and fires:** The product is not flammable.**Storage:****Requirements to be met by storerooms and receptacles:** No special requirements.**Information about storage in one common storage facility:** Not required.**Further information about storage conditions:** None.**Specific end use(s)** No further relevant information available.

USA

(Contd. on page 3)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: GenePrint® TH01 Allele 9.3 (TMR)

(Contd. of page 2)

8 Exposure controls/personal protection

Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: The lists that were valid during the creation were used as basis.

Personal protective equipment:

General protective and hygienic measures:

The usual precautionary measures for handling chemicals should be followed.

Breathing equipment: Not required.

Protection of hands:

Protective gloves

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Eye protection: Goggles recommended during refilling.

9 Physical and chemical properties

General Information

Appearance:

Form:	Fluid
Color:	Colorless
Odor:	Characteristic
Odour threshold:	Not determined.

pH-value at 20°C (68 °F): 9

Change in condition

Melting point/Melting range:	0°C (32 °F)
Boiling point/Boiling range:	100°C (212 °F)

Flash point: Not applicable.

Flammability (solid, gaseous): Not applicable.

Ignition temperature:

Decomposition temperature: Not determined.

Auto igniting: Product is not selfigniting.

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:

Lower:	Not determined.
Upper:	Not determined.

Vapor pressure: Not determined.

Density: Not determined.

Relative density Not determined.

Vapour density Not determined.

Evaporation rate Not determined.

(Contd. on page 4)

USA

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: GenePrint® TH01 Allele 9.3 (TMR)

(Contd. of page 3)

Solubility in / Miscibility with Water:

Fully miscible.

Segregation coefficient (n-octanol/water): Not determined.

Viscosity:

Dynamic:

Not determined.

Kinematic:

Not determined.

Solvent content:

Organic solvents:

0.0 %

Water:

99.2 %

Solids content:

10.0 %

Other information

No further relevant information available.

10 Stability and reactivity

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

Acute toxicity:

LD/LC50 values that are relevant for classification: No data available

Primary irritant effect:

on the skin: No irritant effect.

on the eye: Irritating effect.

Sensitization: No sensitizing effects known.

Additional toxicological information:

The product is not subject to classification according to internally approved calculation methods for preparations:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

12 Ecological information

Aquatic toxicity: Not harmful to the aquatic environment

Persistence and degradability: Not available

Behavior in environmental systems:

Bioaccumulative potential: Not known

Ecotoxicological effects:

Remark: Not available

Additional ecological information:

General notes: Generally not hazardous for water

USA

(Contd. on page 5)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: GenePrint® TH01 Allele 9.3 (TMR)

(Contd. of page 4)

13 Disposal considerations

Waste treatment methods

Recommendation:

Disposal should be in accordance with applicable regional, national and local laws and regulations. Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

Contact Promega Safety Department for additional transportation information

Maritime transport IMDG:

Marine pollutant: No

15 Regulatory information

Sara

Section 355 (extremely hazardous substances):

None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

TSCA (Toxic Substances Control Act):

7447-40-7	potassium chloride
77-86-1	2-Amino-2-(hydroxymethyl)-1,3-propanediol
9002-93-1	Polyethylene glycol tert-octylphenyl ether
7732-18-5	water, pure

Proposition 65

Chemicals known to cause cancer:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

Carcinogeny categories

EPA (Environmental Protection Agency)

None of the ingredients are listed.

IARC (International Agency for Research on Cancer)

7647-01-0	hydrogen chloride	3
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(Contd. on page 6)

USA

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/08/2011

Reviewed on 03/08/2011

Trade name: GenePrint® TH01 Allele 9.3 (TMR)

(Contd. of page 5)

NTP (National Toxicology Program)

None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)

7647-01-0 | hydrogen chloride

A4

MAK (German Maximum Workplace Concentration)

None of the ingredients are listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

Product related hazard informations:

Observe the general safety regulations when handling chemicals.

The product is not subject to identification regulations according to directives on hazardous materials.

National regulations:

Class	Share in %
Wasser	99.2
NK	0.1

Water hazard class: Generally not hazardous for water.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing MSDS:

Promega Corporation

Environmental Health and Safety Department

2800 Woods Hollow Road

Madison, WI

Ph: (608) 274-4330

* Data compared to the previous version altered.

USA