

05/23/2015

### Kit Components

Product code	Description
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<b>B1411</b>	<b>StemElite™ Mus-Klf4/Actb Primer Pair (20X)</b>
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Components:

B141	StemElite™ Mus-Klf4 / Actb Primer Pair (20X)
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**Safety Data Sheet**  
*acc. to OSHA HCS*

Printing date 05/23/2015

Reviewed on 04/30/2015

**1: Identification****1.1 Product identifier****Trade name:** *StemElite™ Mus-Klf4 / Actb Primer Pair (20X)***Article number:** *B141***1.2 Relevant identified uses of the substance or mixture and uses advised against***No further relevant information available.***Application of the substance / the mixture** *Laboratory chemicals***1.3 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:** *SDS author: Regulatory.Affairs@promega.com***1.4 Emergency telephone number:***For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300**Outside USA and Canada: +1 703-527-3887 (collect calls accepted)***2: Hazard(s) identification****2.1 Classification of the substance or mixture****Classification according to the Hazard Communication Standard (HCS)***The product is not classified as hazardous according to the HCS regulation.***2.2 Label elements****Labelling according to Regulation (EC) No 1272/2008 Void****Hazard pictograms** *Void***Signal word** *Void***Hazard statements** *Void***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***2.3 Other hazards***This mixture has not been tested to determine the overall health hazard; therefore in accordance with 29CFR1910.1200, the data reported above pertains to the hazardous ingredients of this mixture.*

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# Safety Data Sheet

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**Trade name: StemElite™ Mus-Klf4 / Actb Primer Pair (20X)**

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### Results of PBT and vPvB assessment

**PBT:** Not applicable.

**vPvB:** Not applicable.

## 3: Composition/information on ingredients

### 3.2 Chemical characterization: Mixtures

#### Description:

The product is a mixture of the hazardous substances listed below along with unlisted nonhazardous substances. The exact concentration percentages of the hazardous substances are withheld as a Promega Corp. trade secret.

**Dangerous components:** Void

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

## 4: First-aid measures

### 4.1 Description of first aid measures

**General information:** No special measures required.

**After inhalation:** If the patient feels unwell or is concerned, obtain medical advice.

**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 the patient feels unwell or is concerned, obtain medical advice.

**4.2 Most important symptoms and effects, both acute and delayed** None

**4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

## 5: Fire-fighting measures

### 5.1 Extinguishing media

**Suitable extinguishing agents:**

CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

**5.2 Special hazards arising from the substance or mixture** None known

**5.3 Advice for firefighters** No special advice

**Protective equipment:** No special measures required.

## 6: Accidental release measures

**6.1 Personal precautions, protective equipment and emergency procedures** Not required.

**6.2 Environmental precautions:**

Dilute with plenty of water.

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

**6.3 Methods and material for containment and cleaning up:**

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

**6.4 Reference to other sections**

No dangerous substances are released.

See Section 7 for information on safe handling.

See Section 13 for disposal information.

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## 7: Handling and storage

**7.1 Precautions for safe handling** No special measures required.

**Information about protection against explosions and fires:** The product is not flammable.

**7.2 Conditions for safe storage, including any incompatibilities**

**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.

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

## 8: Exposure controls/personal protection

**8.1 Control parameters**

**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.

**8.2 Exposure controls**

**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:** Not required.

**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:** Not required.

## 9: Physical and chemical properties

**9.1 Information on basic physical and chemical properties**

**General Information**

**Appearance:**

<b>Form:</b>	Liquid
<b>Color:</b>	Colorless
<b>Odor:</b>	Odorless
<b>Odour threshold:</b>	Not determined.

**pH-value at 20 °C (68 °F):** 7.4

**Change in condition**

<b>Melting point/Melting range:</b>	0 °C (32 °F)
<b>Boiling point/Boiling range:</b>	100 °C (212 °F)
<b>Flash point:</b>	Not applicable.

**Flammability (solid, gaseous):** Not applicable.

**Ignition temperature:**

**Decomposition temperature:** Not determined.

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<b>Auto igniting:</b>	Product is not selfigniting.
<b>Danger of explosion:</b>	Product does not present an explosion hazard.
<b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
<b>Vapor pressure:</b>	Not determined.
<b>Density:</b>	Not determined.
<b>Relative density</b>	Not determined.
<b>Vapour density</b>	Not determined.
<b>Evaporation rate</b>	Not determined.
<b>Solubility in / Miscibility with</b>	
<b>Water:</b>	Fully miscible.
<b>Partition coefficient (n-octanol/water):</b>	Not determined.
<b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
<b>Organic solvents:</b>	0.0 %
<b>Water:</b>	99.5 %
<b>Solids content:</b>	25.2 %
<b>9.2 Other information</b>	No further relevant information available.

## 10: Stability and reactivity

### 10.1 Reactivity

### 10.2 Chemical stability

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

**10.3 Possibility of hazardous reactions** No dangerous reactions known.

**10.4 Conditions to avoid** No further relevant information available.

**10.5 Incompatible materials:** No further relevant information available.

**10.6 Hazardous decomposition products:** No dangerous decomposition products known.

## 11: Toxicological information

### 11.1 Information on toxicological effects

#### 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.

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### Carcinogenic categories

#### IARC (International Agency for Research on Cancer)

None of the ingredients are listed.

#### NTP (National Toxicology Program)

None of the ingredients are listed.

#### OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

## 12: Ecological information

### 12.1 Toxicity

**Aquatic toxicity:** Not harmful to the aquatic environment

**12.2 Persistence and degradability** Not available

**12.3 Bioaccumulative potential** Not known

**12.4 Mobility in soil** No further relevant information available.

**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.

### 12.5 Results of PBT and vPvB assessment

**PBT:** Not applicable.

**vPvB:** Not applicable.

**12.6 Other adverse effects** No further relevant information available.

## 13: Disposal considerations

### 13.1 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

### 14.1 UN-Number

Not hazardous for transportation

DOT, ADR, ADN, IMDG, IATA

Void

### 14.2 UN proper shipping name

None

DOT, ADR, ADN, IMDG, IATA

Void

### 14.3 Transport hazard class(es)

None

DOT, ADR, ADN, IMDG, IATA

Class

Void

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<b>14.4 Packing group</b>	None
<b>DOT, ADR, IMDG, IATA</b>	Void

<b>14.5 Environmental hazards:</b>	
<b>Marine pollutant:</b>	No

<b>14.6 Special precautions for user</b>	Not applicable.
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<b>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
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<b>UN "Model Regulation":</b>	-
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## 15: Regulatory information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**  
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):**

1132-61-2	4-morpholinopropanesulphonic acid
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7732-18-5	water
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**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.

**Carcinogen categories**

**EPA (Environmental Protection Agency)**

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.

**National regulations:**

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

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**15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 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 SDS:**

Promega Corporation  
 Environmental Health and Safety Department  
 2800 Woods Hollow Road  
 Madison, WI  
 Ph: (608)274-4330

#### **Abbreviations and acronyms:**

*RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)*  
*ICAO: International Civil Aviation Organization*  
*ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*  
*IMDG: International Maritime Code for Dangerous Goods*  
*DOT: US Department of Transportation*  
*IATA: International Air Transport Association*  
*GHS: Globally Harmonized System of Classification and Labeling of Chemicals*  
*ACGIH: American Conference of Governmental Industrial Hygienists*  
*EINECS: European Inventory of Existing Commercial Chemical Substances*  
*ELINCS: European List of Notified Chemical Substances*  
*CAS: Chemical Abstracts Service (division of the American Chemical Society)*  
*NFPA: National Fire Protection Association (USA)*  
*HMIS: Hazardous Materials Identification System (USA)*  
*LC50: Lethal concentration, 50 percent*  
*LD50: Lethal dose, 50 percent*

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

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