**Kit Components**

| Product code | Description |
|---|---|
| **V9281** | **ADP-Glo™ Kinase Assay + ERK1 Kinase Enzyme System** |

Components:

| | |
|---|---|
| V1951 | ERK1 Kinase Enzyme System |
| V9101 | ADP-Glo™ Kinase Assay, 1000 Assays |

# Safety Data Sheet
## acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

* 
## 1: Identification

**1.1 Product identifier**
**Trade name: Active Enzyme**

**Article number:** Turnkey1
**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 = 1
Reactivity = 0
**HMIS-ratings (scale 0 - 4)**
Health = 1
Fire = 1
Reactivity = 0
**OSHA Hazard Overview (Criteria according to 29CFR1910.1200):** Not applicable
**Target Organ(s):** May cause Kidney damage (Nephrotoxin)
**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.

(Contd. on page 2)

# Safety Data Sheet
acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

**Trade name: Active Enzyme**

(Contd. of page 1)

***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:*** | | |
|---|---|---|
| *56-81-5* | *glycerol* | *20-25%* |

***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:***
*CO2, 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*
*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.*

(Contd. on page 3)

# Safety Data Sheet
acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

**Trade name: Active Enzyme**

(Contd. of page 2)

See Section 13 for disposal information.

* 
## 7: Handling and storage

**7.1 Precautions for safe handling** No special measures required.
**Information about protection against explosions and fires:** No special measures required.

**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:** | |
|---|---|
| **56-81-5 glycerol** | |
| PEL | Long-term value: 15* 5** mg/m³<br>mist; *total dust **respirable fraction |
| TLV | TLV withdrawn-insufficient data human occup. exp. |

**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:**

| | |
|---|---|
| **Form:** | Fluid |
| **Color:** | Colorless |
| **Odor:** | Not determined |
| **Odour threshold:** | Not determined. |

**Change in condition**

| | |
|---|---|
| **Melting point/Melting range:** | Undetermined. |
| **Boiling point/Boiling range:** | 100 °C (212 °F) |
| **Flash point:** | > 100 °C (> 212 °F) |

(Contd. on page 4)

# Safety Data Sheet
## acc. to OSHA HCS



**Trade name: Active Enzyme**

(Contd. of page 3)

| | |
|---|---|
| **Flammability (solid, gaseous):** | Not applicable. |
| **Ignition temperature:** | 400 °C (752 °F) |
| **Decomposition temperature:** | Not determined. |
| **Auto igniting:** | Product is not selfigniting. |
| **Danger of explosion:** | Product does not present an explosion hazard. |
| **Explosion limits:** | |
| **Lower:** | 0.9 Vol % |
| **Upper:** | Not determined. |
| **Vapor pressure at 20 °C (68 °F):** | 0.1 hPa |
| **Density:** | Not determined. |
| **Relative density** | Not determined. |
| **Vapour density** | Not determined. |
| **Evaporation rate** | Not determined. |
| **Solubility in / Miscibility with** | |
| **Water:** | Fully miscible. |
| **Partition coefficient (n-octanol/water):** | Not determined. |
| **Viscosity:** | |
| **Dynamic:** | Not determined. |
| **Kinematic:** | Not determined. |
| **Organic solvents:** | 25.0 % |
| **Water:** | 73.3 % |
| **Solids content:** | 1.7 % |
| **9.2 Other information** | No further relevant information available. |

* 
## 10: Stability and reactivity

**10.1 Reactivity** No further relevant information available.
**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:** Based on available data, the classification criteria are not met.
**on the eye:** Based on available data, the classification criteria are not met.
**Sensitization:** Based on available data, the classification criteria are not met.

(Contd. on page 5)

# Safety Data Sheet
## acc. to OSHA HCS



**Trade name: Active Enzyme**

(Contd. of page 4)

**Additional toxicological information:**

**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.
**Ecotoxical 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 |
| **14.2 UN proper shipping name** | None |
| **14.3 Transport hazard class(es)** | None |
| **14.4 Packing group** | None |

(Contd. on page 6)

# Safety Data Sheet
acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

**Trade name: Active Enzyme**

(Contd. of page 5)

| | |
|---|---|
| **14.5 Environmental hazards:** | |
| **Marine pollutant:** | No |
| **14.6 Special precautions for user** | Not applicable. |
| **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** | Not applicable. |

* 

## 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):**
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.

**Cancerogenity 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.
**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.

(Contd. on page 7)

# Safety Data Sheet
## acc. to OSHA HCS

*Printing date 07/21/2015* *Reviewed on 07/21/2015*

***Trade name: Active Enzyme***

(Contd. of page 6)

***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)*
*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*
*PBT: Persistent, Bioaccumulative and Toxic*
*vPvB: very Persistent and very Bioaccumulative*
**** Data compared to the previous version altered.***

# Safety Data Sheet
## acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

* 
## 1: Identification

**1.1 Product identifier**
**Trade name: Turn Key MBP Protein Substrate**

**Article number:** Turnkey7
**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
**Additional information:**
Safety data sheet available on request.
**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

(Contd. on page 2)

# Safety Data Sheet
## acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

**Trade name: Turn Key MBP Protein Substrate**

(Contd. of page 1)

**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.
**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:** | | |
|---|---|---|
| 1132-61-2 | 4-morpholinopropanesulphonic acid<br>Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335 | <2.00% |

**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:**
CO2, 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
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.
**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.

(Contd. on page 3)

# Safety Data Sheet
acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

**Trade name: Turn Key MBP Protein Substrate**

(Contd. of page 2)

*See Section 13 for disposal information.*

* 
## 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:***

| | |
|---|---|
| ***Form:*** | *Fluid* |
| ***Color:*** | *Colorless* |
| ***Odor:*** | *Not determined* |
| ***Odour threshold:*** | *Not determined.* |
| ***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.* |

(Contd. on page 4)

# Safety Data Sheet
acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

**Trade name: Turn Key MBP Protein Substrate**

(Contd. of page 3)

| | |
|---|---|
| **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. |
| **Solubility in / Miscibility with** | |
| **Water:** | Fully miscible. |
| **Partition coefficient (n-octanol/water):** | Not determined. |
| **Viscosity:** | |
| **Dynamic:** | Not determined. |
| **Kinematic:** | Not determined. |
| **Organic solvents:** | 0.0 % |
| **Water:** | 98.8 % |
| **Solids content:** | 1.1 % |
| **9.2 Other information** | No further relevant information available. |

* 
## 10: Stability and reactivity

**10.1 Reactivity** No further relevant information available.
**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:** Based on available data, the classification criteria are not met.
**on the eye:** Based on available data, the classification criteria are not met.
**Sensitization:** Based on available data, the classification criteria are not met.
**Additional toxicological information:**

**Carcinogenic categories**

| **IARC (International Agency for Research on Cancer)** |
|---|
| None of the ingredients are listed. |

(Contd. on page 5)

# Safety Data Sheet
acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

**Trade name: Turn Key MBP Protein Substrate**

(Contd. of page 4)

**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.
**Ecotoxical effects:**
**Remark:** Not available
**Additional ecological information:**
**General notes:** Generally not hazardous for water.
**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 |
| **14.2 UN proper shipping name** | None |
| **14.3 Transport hazard class(es)** | None |
| **14.4 Packing group** | None |
| **14.5 Environmental hazards:**<br>**Marine pollutant:** | No |
| **14.6 Special precautions for user** | Not applicable. |
| **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** | Not applicable. |



(Contd. on page 6)

# Safety Data Sheet
acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

**Trade name: Turn Key MBP Protein Substrate**

(Contd. of page 5)

* 
## 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 |
| 7732-18-5 | water |

**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.

**Cancerogenity 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:** Generally not hazardous for water.
**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

(Contd. on page 7)

# Safety Data Sheet
## acc. to OSHA HCS

*Printing date 07/21/2015* *Reviewed on 07/21/2015*

***Trade name: Turn Key MBP Protein Substrate***

(Contd. of page 6)

***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)*
*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*
*PBT: Persistent, Bioaccumulative and Toxic*
*vPvB: very Persistent and very Bioaccumulative*
*Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2*
*Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2*
*STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3*
**** Data compared to the previous version altered.***

# Safety Data Sheet
## acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

* 
## 1: Identification

**1.1 Product identifier**
**Trade name: 0.1M DTT**

**Article number:** Turnkey10
**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
**Additional information:**
Safety data sheet available on request.
**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

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# Safety Data Sheet
acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

**Trade name: 0.1M DTT**

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**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.
**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:** | | |
|---|---|---|
| 3483-12-3 | DL-Dithiothreitol<br>Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335 | <2.00% |

**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:**
CO2, 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
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).

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# Safety Data Sheet
acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

**Trade name: 0.1M DTT**

(Contd. of page 2)

**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.

* 
## 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:**

| | |
|---|---|
| **Form:** | Fluid |
| **Color:** | Colorless |
| **Odor:** | Not determined |
| **Odour threshold:** | Not determined. |

**Change in condition**

| | |
|---|---|
| **Melting point/Melting range:** | 0 °C (32 °F) |
| **Boiling point/Boiling range:** | 100 °C (212 °F) |
| **Flash point:** | Not applicable. |

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# Safety Data Sheet
## acc. to OSHA HCS



**Trade name: 0.1M DTT**

(Contd. of page 3)

| | |
|---|---|
| **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. |
| **Solubility in / Miscibility with** | |
| **Water:** | Fully miscible. |
| **Partition coefficient (n-octanol/water):** | Not determined. |
| **Viscosity:** | |
| **Dynamic:** | Not determined. |
| **Kinematic:** | Not determined. |
| **Organic solvents:** | 0.0 % |
| **Water:** | 98.5 % |
| **Solids content:** | 1.5 % |
| **9.2 Other information** | No further relevant information available. |

* 
## 10: Stability and reactivity

**10.1 Reactivity** No further relevant information available.
**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:** Based on available data, the classification criteria are not met.
**on the eye:** Based on available data, the classification criteria are not met.
**Sensitization:** Based on available data, the classification criteria are not met.

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# Safety Data Sheet
acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

**Trade name: 0.1M DTT**

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***Additional toxicological information:***

***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.*
***Ecotoxical 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* |

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# Safety Data Sheet
acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

**Trade name: 0.1M DTT**

(Contd. of page 5)

| | |
|---|---|
| **DOT, ADR, ADN, IMDG, IATA Class** | Void |
| **14.4 Packing group DOT, ADR, IMDG, IATA** | None Void |
| **14.5 Environmental hazards: Marine pollutant:** | No |
| **14.6 Special precautions for user** | Not applicable. |
| **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** | Not applicable. |
| **UN "Model Regulation":** | Void |

* 
## 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):**
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.

**Cancerogenity 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.

(Contd. on page 7)

# Safety Data Sheet
## acc. to OSHA HCS



**Trade name: 0.1M DTT**

(Contd. of page 6)

**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: Internation 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
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 4: Acute toxicity, Hazard Category 4
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

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

# Safety Data Sheet
## acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

* 
## 1: Identification

**1.1 Product identifier**
**Trade name: 5x Reaction Buffer A**

**Article number:** Turnkey4
**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.

(Contd. on page 2)

# Safety Data Sheet
acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

**Trade name: 5x Reaction Buffer A**

(Contd. of page 1)

***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:***
*CO2, 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*
*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.*

(Contd. on page 3)

# Safety Data Sheet
acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

**Trade name: 5x Reaction Buffer A**

(Contd. of page 2)

See Section 13 for disposal information.

* 
## 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:**

| | |
|---|---|
| **Form:** | Fluid |
| **Color:** | Colorless |
| **Odor:** | Not determined |
| **Odour threshold:** | Not determined. |
| **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. |

(Contd. on page 4)

# Safety Data Sheet
acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

**Trade name: 5x Reaction Buffer A**

(Contd. of page 3)

| | |
|---|---|
| **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 at 20 °C (68 °F):** | 0.99739 g/cm³ (8.323 lbs/gal) |
| **Relative density** | Not determined. |
| **Vapour density** | Not determined. |
| **Evaporation rate** | Not determined. |
| **Solubility in / Miscibility with** | |
| **Water:** | Fully miscible. |
| **Partition coefficient (n-octanol/water):** | Not determined. |
| **Viscosity:** | |
| **Dynamic:** | Not determined. |
| **Kinematic:** | Not determined. |
| **Organic solvents:** | 0.0 % |
| **Water:** | 94.8 % |
| **Solids content:** | 5.2 % |
| **9.2 Other information** | No further relevant information available. |

* 
## 10: Stability and reactivity

**10.1 Reactivity** No further relevant information available.
**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:** Based on available data, the classification criteria are not met.
**on the eye:** Based on available data, the classification criteria are not met.
**Sensitization:** Based on available data, the classification criteria are not met.
**Additional toxicological information:**

**Carcinogenic categories**

| **IARC (International Agency for Research on Cancer)** |
|---|
| None of the ingredients are listed. |

(Contd. on page 5)

# Safety Data Sheet
acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

**Trade name: 5x Reaction Buffer A**

(Contd. of page 4)

**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.
**Ecotoxical 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 |
| **14.4 Packing group** | None |
| **DOT, ADR, IMDG, IATA** | Void |

(Contd. on page 6)

# Safety Data Sheet
acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

**Trade name: 5x Reaction Buffer A**

(Contd. of page 5)

| | |
|---|---|
| **14.5 Environmental hazards:** | |
| **Marine pollutant:** | No |
| **14.6 Special precautions for user** | Not applicable. |
| **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** | Not applicable. |
| **UN "Model Regulation":** | Void |

* 
## 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):**
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.

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



(Contd. on page 7)

# Safety Data Sheet
## acc. to OSHA HCS



**Trade name: 5x Reaction Buffer A**

(Contd. of page 6)

## 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:***
*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*
*PBT: Persistent, Bioaccumulative and Toxic*
*vPvB: very Persistent and very Bioaccumulative*

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

# Safety Data Sheet
## acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

* 
## 1: Identification

**1.1 Product identifier**
**Trade name: ADP-Glo™ Reagent**

**Article number:** V912
**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
acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

**Trade name: ADP-Glo™ Reagent**

(Contd. of page 1)

***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:***
*CO2, 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.*
***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.*

* 
## 7: Handling and storage

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

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# Safety Data Sheet
acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

**Trade name: ADP-Glo™ Reagent**

(Contd. of page 2)

***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:*** | |
| ***Form:*** | *Fluid* |
| ***Color:*** | *Colorless* |
| ***Odor:*** | *Not determined* |
| ***Odour threshold:*** | *Not determined.* |
| ***pH-value at 20 °C (68 °F):*** | *7.5* |
| ***Change in condition*** | |
| ***Melting point/Melting range:*** | *0 °C (32 °F)* |
| ***Boiling point/Boiling range:*** | *Undetermined.* |
| ***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.* |

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# Safety Data Sheet
acc. to OSHA HCS

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**Trade name: ADP-Glo™ Reagent**

(Contd. of page 3)

| | |
|---|---|
| **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. |
| **Solubility in / Miscibility with** | |
| **Water:** | Fully miscible. |
| **Partition coefficient (n-octanol/water):** | Not determined. |
| **Viscosity:** | |
| **Dynamic:** | Not determined. |
| **Kinematic:** | Not determined. |
| **Organic solvents:** | 0.7 % |
| **Water:** | 99.0 % |
| **9.2 Other information** | No further relevant information available. |

* 
## 10: Stability and reactivity

**10.1 Reactivity** No further relevant information available.
**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:** Based on available data, the classification criteria are not met.
**on the eye:** Based on available data, the classification criteria are not met.
**Sensitization:** Based on available data, the classification criteria are not met.
**Additional toxicological information:**

**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. |



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# Safety Data Sheet
acc. to OSHA HCS



**Trade name: ADP-Glo™ Reagent**

(Contd. of page 4)

* 
## 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.
**Ecotoxical effects:**
**Remark:** Not available
**Additional ecological information:**
**General notes:** Generally not hazardous for water.
**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 |
| **14.4 Packing group** | None |
| **DOT, ADR, IMDG, IATA** | Void |
| **14.5 Environmental hazards:** | |
| **Marine pollutant:** | No |
| **14.6 Special precautions for user** | Not applicable. |
| **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** | Not applicable. |
| **UN "Model Regulation":** | Void |



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# Safety Data Sheet
acc. to OSHA HCS

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**Trade name: ADP-Glo™ Reagent**

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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):**
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.

**Cancerogenity 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:** Generally not hazardous for water.
**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)

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# Safety Data Sheet
## acc. to OSHA HCS

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***Trade name: ADP-Glo™ Reagent***

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*ICAO: Internation 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*
*PBT: Persistent, Bioaccumulative and Toxic*
*vPvB: very Persistent and very Bioaccumulative*

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

# Safety Data Sheet
## acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

* 
## 1: Identification

**1.1 Product identifier**
**Trade name: Kinase Detection Buffer**

**Article number:** V913
**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)**
Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

**2.2 Label elements**
**Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labeled according to the CLP regulation.
**Hazard pictograms** Void
**Signal word** Void
**Hazard statements**
H412 Harmful to aquatic life with long lasting effects.
**Precautionary statements**
P273 Avoid release to the environment.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
**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

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# Safety Data Sheet
acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

**Trade name: Kinase Detection Buffer**

(Contd. of page 1)

***Primary route(s) of entry:*** *Oral*
***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.*
***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:*** | | |
|---|---|---|
| *9002-92-0* | *Polyethylene glycol 400 dodecyl ether*<br>*Eye Dam. 1, H318; Skin Irrit. 2, H315* | *<2.50%* |
| *1119-94-4* | *Dodecyltrimethylammonium bromide*<br>*Acute Tox. 3, H301; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335* | *<2.00%* |

***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***
***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:***
*CO2, 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*

* 
## 6: Accidental release measures

***6.1 Personal precautions, protective equipment and emergency procedures***
*Remove persons from danger area.*
*Wear protective clothing.*
***6.2 Environmental precautions:***
*Dilute with plenty of water.*

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# Safety Data Sheet
acc. to OSHA HCS

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**Trade name: Kinase Detection Buffer**

(Contd. of page 2)

*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***
*See Section 7 for information on safe handling.*
*See Section 13 for disposal information.*

* 
## 7: Handling and storage

***7.1 Precautions for safe handling*** *No special precautions are necessary if used correctly.*
***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:*** *Wash hands before breaks and at the end of work.*
***Breathing equipment:*** *Not required.*
***Protection of hands:***
*Protective gloves*
*Select the glove material considering penetration time, rate of diffusion and degradation time.*
*It is recommended that the selected protective gloves be tested and approved under NIOSH or EU Directive 89/686/EEC and the standard EN 374 derived from it.*
***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:*** *Use equipment for eye protection tested and approved under government NIOSH standards.*

* 
## 9: Physical and chemical properties

***9.1 Information on basic physical and chemical properties***
***General Information***
***Appearance:***

| | |
|---|---|
| ***Form:*** | *Fluid* |
| ***Color:*** | *Colorless* |
| ***Odor:*** | *Not determined* |
| ***Odour threshold:*** | *Not determined.* |

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# Safety Data Sheet
acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

**Trade name: Kinase Detection Buffer**

(Contd. of page 3)

| | |
|---|---|
| **pH-value at 20 °C (68 °F):** | 8 |
| **Change in condition** | |
| **Melting point/Melting range:** | Undetermined. |
| **Boiling point/Boiling range:** | Undetermined. |
| **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. |
| **Solubility in / Miscibility with** | |
| **Water:** | Fully miscible. |
| **Partition coefficient (n-octanol/water):** | Not determined. |
| **Viscosity:** | |
| **Dynamic:** | Not determined. |
| **Kinematic:** | Not determined. |
| **Organic solvents:** | 0.0 % |
| **Water:** | 88.6 % |
| **9.2 Other information** | No further relevant information available. |

* 
## 10: Stability and reactivity

**10.1 Reactivity** No further relevant information available.
**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:** Based on available data, the classification criteria are not met.
**on the eye:** Based on available data, the classification criteria are not met.
**Sensitization:** Based on available data, the classification criteria are not met.

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# Safety Data Sheet
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**Trade name: Kinase Detection Buffer**

(Contd. of page 4)

***Additional toxicological information:***

***Carcinogenic categories***

| ***IARC (International Agency for Research on Cancer)*** | | |
|---|---|---|
| *7681-49-4* | *sodium fluoride* | *3* |

| ***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.*
***Ecotoxical 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* |
| ***14.2 UN proper shipping name*** | *None* |
| ***14.3 Transport hazard class(es)*** | *None* |
| ***14.4 Packing group*** | *None* |

(Contd. on page 6)

# Safety Data Sheet
acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

**Trade name: Kinase Detection Buffer**

(Contd. of page 5)

| | |
|---|---|
| **14.5 Environmental hazards:** | |
| **Marine pollutant:** | No |
| **14.6 Special precautions for user** | Not applicable. |
| **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** | Not applicable. |

* 

## 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):**

| | |
|---|---|
| 7778-77-0 | potassium phosphate monobasic |
| 7758-11-4 | dipotassium hydrogenorthophosphate |
| 9002-92-0 | Polyethylene glycol 400 dodecyl ether |
| 68-04-2 | Sodium Citrate |
| 1119-94-4 | Dodecyltrimethylammonium bromide |
| | Defoamers |
| 7732-18-5 | water |

**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.

**Cancerogenity categories**

**EPA (Environmental Protection Agency)**
None of the ingredients are listed.

**TLV (Threshold Limit Value established by ACGIH)**

| | | |
|---|---|---|
| 7681-49-4 | sodium fluoride | 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.

**National regulations:**

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

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# Safety Data Sheet
## acc. to OSHA HCS

*Printing date 07/21/2015* *Reviewed on 07/21/2015*

***Trade name: Kinase Detection Buffer***

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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)*
*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*
*PBT: Persistent, Bioaccumulative and Toxic*
*vPvB: very Persistent and very Bioaccumulative*
*Acute Tox. 3: Acute toxicity, Hazard Category 3*
*Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2*
*Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1*
*Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2*
*STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3*
*Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1*
*Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1*
*Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3*

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

# Safety Data Sheet
## acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

* 
## 1: Identification

**1.1 Product identifier**
**Trade name: Kinase Detection Substrate**

**Article number:** V914
**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.

(Contd. on page 2)

# Safety Data Sheet
acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

**Trade name: Kinase Detection Substrate**

(Contd. of page 1)

***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:***
*CO2, 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.*



(Contd. on page 3)

# Safety Data Sheet
acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

**Trade name: Kinase Detection Substrate**

(Contd. of page 2)

* 
## 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:**

| | |
|---|---|
| **Form:** | Fluid |
| **Color:** | Colorless |
| **Odor:** | Not determined |
| **Odour threshold:** | Not determined. |
| **pH-value at 20 °C (68 °F):** | 6 |
| **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. |

(Contd. on page 4)

# Safety Data Sheet
acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

**Trade name: Kinase Detection Substrate**

(Contd. of page 3)

| | |
|---|---|
| **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 at 20 °C (68 °F):** | 1.014 g/cm³ (8.462 lbs/gal) |
| **Relative density** | Not determined. |
| **Vapour density** | Not determined. |
| **Evaporation rate** | Not determined. |
| **Solubility in / Miscibility with** | |
| **Water:** | Fully miscible. |
| **Partition coefficient (n-octanol/water):** | Not determined. |
| **Viscosity:** | |
| **Dynamic:** | Not determined. |
| **Kinematic:** | Not determined. |
| **Organic solvents:** | 0.0 % |
| **Water:** | 95.5 % |
| **9.2 Other information** | No further relevant information available. |

* 
## 10: Stability and reactivity

**10.1 Reactivity** No further relevant information available.
**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:** Based on available data, the classification criteria are not met.
**on the eye:** Based on available data, the classification criteria are not met.
**Sensitization:** Based on available data, the classification criteria are not met.
**Additional toxicological information:**

**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. |

(Contd. on page 5)

# Safety Data Sheet
acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

**Trade name: Kinase Detection Substrate**

(Contd. of page 4)

**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.
**Ecotoxical 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 |
| **14.2 UN proper shipping name** | None |
| **14.3 Transport hazard class(es)** | None |
| **14.4 Packing group** | None |
| **14.5 Environmental hazards:**<br>**Marine pollutant:** | <br>No |
| **14.6 Special precautions for user** | Not applicable. |
| **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** | Not applicable. |



(Contd. on page 6)

# Safety Data Sheet
acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

**Trade name: Kinase Detection Substrate**

(Contd. of page 5)

* 
## 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):**

| | |
|---|---|
| 68410-45-7 | Gelatins, hydrolyzates |
| 68-04-2 | Sodium Citrate |
| 7365-45-9 | 4-(2-hydroxyethyl)piperazin-1-ylethanesulphonic acid |
| 7647-14-5 | sodium chloride |
| 7487-88-9 | Sulfuric acid magnesium salt (1:1) |
| 7732-18-5 | water |

**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.

**Cancerogenity 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.
**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

(Contd. on page 7)

# Safety Data Sheet
## acc. to OSHA HCS

*Printing date 07/21/2015* *Reviewed on 07/21/2015*

***Trade name: Kinase Detection Substrate***

(Contd. of page 6)

*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)*
*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*
*PBT: Persistent, Bioaccumulative and Toxic*
*vPvB: very Persistent and very Bioaccumulative*
**** Data compared to the previous version altered.***

# Safety Data Sheet
## acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

* 
## 1: Identification

**1.1 Product identifier**
**Trade name: Ultra Pure ATP, 10mM**

**Article number:** V915
**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.

(Contd. on page 2)

# Safety Data Sheet
acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

**Trade name: Ultra Pure ATP, 10mM**

(Contd. of page 1)

***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:***
*CO2, 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.*
***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.*

* 
## 7: Handling and storage

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

(Contd. on page 3)

# Safety Data Sheet
acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

**Trade name: Ultra Pure ATP, 10mM**

(Contd. of page 2)

**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:**

| | |
|---|---|
| **Form:** | Fluid |
| **Color:** | Colorless |
| **Odor:** | Not determined |
| **Odour threshold:** | Not determined. |
| **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. |

(Contd. on page 4)

# Safety Data Sheet
acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

**Trade name: Ultra Pure ATP, 10mM**

(Contd. of page 3)

| | |
|---|---|
| **Vapor pressure:** | Not determined. |
| **Density:** | Not determined. |
| **Relative density** | Not determined. |
| **Vapour density** | Not determined. |
| **Evaporation rate** | Not determined. |
| **Solubility in / Miscibility with** | |
| **Water:** | Fully miscible. |
| **Partition coefficient (n-octanol/water):** | Not determined. |
| **Viscosity:** | |
| **Dynamic:** | Not determined. |
| **Kinematic:** | Not determined. |
| **Organic solvents:** | 0.0 % |
| **Water:** | 99.4 % |
| **9.2 Other information** | No further relevant information available. |

* 
## 10: Stability and reactivity

**10.1 Reactivity** No further relevant information available.
**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:** Based on available data, the classification criteria are not met.
**on the eye:** Based on available data, the classification criteria are not met.
**Sensitization:** Based on available data, the classification criteria are not met.
**Additional toxicological information:**

**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

(Contd. on page 5)

# Safety Data Sheet
acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

**Trade name: Ultra Pure ATP, 10mM**

(Contd. of page 4)

**12.2 Persistence and degradability** Not available
**12.3 Bioaccumulative potential** Not known
**12.4 Mobility in soil** No further relevant information available.
**Ecotoxical effects:**
**Remark:** Not available
**Additional ecological information:**
**General notes:** Generally not hazardous for water.
**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 |
| **14.2 UN proper shipping name** | None |
| **14.3 Transport hazard class(es)** | None |
| **14.4 Packing group** | None |
| **14.5 Environmental hazards:** **Marine pollutant:** | No |
| **14.6 Special precautions for user** | Not applicable. |
| **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** | Not applicable. |

* 
## 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):**
All ingredients are listed.

(Contd. on page 6)

# Safety Data Sheet
## acc. to OSHA HCS



**Trade name: Ultra Pure ATP, 10mM**

(Contd. of page 5)

**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.

**Cancerogenity 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:** Generally not hazardous for water.
**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)
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
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative

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

# Safety Data Sheet
## acc. to OSHA HCS

Printing date 07/21/2015 Reviewed on 07/21/2015

* 
## 1: Identification

**1.1 Product identifier**
**Trade name: ADP, 10mM**

**Article number:** V916
**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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***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:***
*CO2, 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.*
***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.*

* 
## 7: Handling and storage

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

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***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:***

| | |
|---|---|
| ***Form:*** | *Fluid* |
| ***Color:*** | *Colorless* |
| ***Odor:*** | *Not determined* |
| ***Odour threshold:*** | *Not determined.* |
| ***pH-value at 20 °C (68 °F):*** | *7.5* |
| ***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.* |

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| | |
|---|---|
| **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. |
| **Solubility in / Miscibility with** | |
| **Water:** | Fully miscible. |
| **Partition coefficient (n-octanol/water):** | Not determined. |
| **Viscosity:** | |
| **Dynamic:** | Not determined. |
| **Kinematic:** | Not determined. |
| **Organic solvents:** | 0.0 % |
| **Water:** | 99.6 % |
| **9.2 Other information** | No further relevant information available. |

* 
## 10: Stability and reactivity

**10.1 Reactivity** No further relevant information available.
**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:** Based on available data, the classification criteria are not met.
**on the eye:** Based on available data, the classification criteria are not met.
**Sensitization:** Based on available data, the classification criteria are not met.
**Additional toxicological information:**

**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. |



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## 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.
**Ecotoxical effects:**
**Remark:** Not available
**Additional ecological information:**
**General notes:** Generally not hazardous for water.
**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 |
| **14.2 UN proper shipping name** | None |
| **14.3 Transport hazard class(es)** | None |
| **14.4 Packing group** | None |
| **14.5 Environmental hazards:**<br>**Marine pollutant:** | No |
| **14.6 Special precautions for user** | Not applicable. |
| **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** | Not applicable. |

* 
## 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. |

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**Section 313 (Specific toxic chemical listings):**
None of the ingredients are listed.

**TSCA (Toxic Substances Control Act):**
7732-18-5 water

**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.

**Cancerogenity 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:** Generally not hazardous for water.
**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)
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
PBT: Persistent, Bioaccumulative and Toxic

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*vPvB: very Persistent and very Bioaccumulative*

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