

**Material Safety Data Sheet**  
*acc. to ISO/DIS 11014*

Printing date 06/15/2009

Reviewed on 06/15/2009

**1 Identification of substance****Trade name:** Denaturation Solution**Article number:** A830**Application of the substance / the preparation** Laboratory chemicals**Manufacturer/Supplier:**

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

**MSDS author:** Regulatory.Affairs@promega.com**Emergency information:**

CHEMTREC 1-800-424-9300

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

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

1310-73-2	sodium hydroxide	<2.50%
-----------	------------------	--------

**Additional information:** For the wording of the listed risk phrases refer to section 15.**3 Hazards identification****Hazard description:**

C Corrosive

**Information pertaining to particular dangers for man and environment:**

Causes burns.

**Classification system:**

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

**NFPA ratings (scale 0 - 4)**

Health = 3

Fire = 0

Reactivity = 0

**HMIS-ratings (scale 0 - 4)**

Health = 3

Fire = 0

Reactivity = 0

(Contd. on page 2)

USA

# Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2009

Reviewed on 06/15/2009

**Trade name: Denaturation Solution**

(Contd. of page 1)

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

*Highly Toxic*

*Corrosive*

**Primary route(s) of entry:**

*Dermal*

*Inhalation*

*Oral*

**Target Organ(s):** *Not applicable or unknown*

## 4 First aid measures

**General information:** *Immediately remove any clothing soiled by the product.*

**After inhalation:** *In case of unconsciousness place patient stably in side position for transportation.*

**After skin contact:** *Immediately wash with water and soap and rinse thoroughly.*

**After eye contact:** *Rinse opened eye for several minutes under running water.*

**After swallowing:** *Drink copious amounts of water and provide fresh air. Immediately call a doctor.*

## 5 Fire fighting measures

**Suitable extinguishing agents:**

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

## 6 Accidental release measures

**Person-related safety precautions:** *Wear protective equipment. Keep unprotected persons away.*

**Measures for environmental protection:** *Dilute with plenty of water.*

**Measures for cleaning/collecting:**

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

*Use neutralizing agent.*

*Dispose contaminated material as waste according to item 13.*

*Ensure adequate ventilation.*

## 7 Handling and storage

**Handling:**

**Information for safe handling:**

*Ensure good ventilation/exhaustion at the workplace.*

*Prevent formation of aerosols.*

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

**Storage:**

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

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

**Further information about storage conditions:** *Keep receptacle tightly sealed.*

USA

(Contd. on page 3)

# Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2009

Reviewed on 06/15/2009

Trade name: Denaturation Solution

(Contd. of page 2)

## 8 Exposure controls and personal protection

**Components with limit values that require monitoring at the workplace:**

**1310-73-2 sodium hydroxide**

PEL	2 mg/m <sup>3</sup>
REL	Short-term value: C 2 mg/m <sup>3</sup>
TLV	Short-term value: C 2 mg/m <sup>3</sup>

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

**Personal protective equipment:**

**General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

**Breathing equipment:**

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

**Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

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

**Material of gloves**

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

**Eye protection:** Tightly sealed goggles

## 9 Physical and chemical properties

**General Information**

<b>Form:</b>	Fluid
<b>Color:</b>	Colorless
<b>Odor:</b>	Characteristic

**Change in condition**

**Melting point/Melting range:** 0°C (32°F)

**Boiling point/Boiling range:** 100°C (212°F)

**Flash point:** Not applicable.

**Auto igniting:** Product is not selfigniting.

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

**Density at 20°C (68°F):** 1 g/cm<sup>3</sup>

**Solubility in / Miscibility with**

**Water:** Fully miscible.

**pH-value at 20°C (68°F):** >12

**Solvent content:**

**Organic solvents:** 0.0 %

(Contd. on page 4)

USA

# Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2009

Reviewed on 06/15/2009

**Trade name: Denaturation Solution**

(Contd. of page 3)

<b>Water:</b>	97.6 %
<b>Solids content:</b>	2.4 %

## 10 Stability and reactivity

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

**Dangerous reactions** Reacts with strong acids.

**Dangerous products of decomposition:** No dangerous decomposition products known.

## 11 Toxicological information

**Acute toxicity:**

**LD/LC50 values that are relevant for classification:**

**1310-73-2 sodium hydroxide**

Oral	LD50	2000 mg/kg (Rat)
Irritation of skin	acute	500 mg/ 24H (Rabbit) severe

**Primary irritant effect:**

**on the skin:** Caustic effect on skin and mucous membranes.

**on the eye:**

Strong caustic effect.

Irritating effect.

**Sensitization:** No sensitizing effects known.

**Additional toxicological information:**

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

Corrosive

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

## 12 Ecological information

**General notes:**

Generally not hazardous for water

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably reduced, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

## 13 Disposal considerations

**Product:**

**Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

**Uncleaned packagings:**

**Recommendation:** Disposal must be made according to official regulations.

(Contd. on page 5)

USA

# Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2009

Reviewed on 06/15/2009

Trade name: Denaturation Solution

(Contd. of page 4)

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

## 14 Transport information

Contact Promega Safety Department for additional transportation information

### DOT regulations:



**Hazard class:** 8  
**Identification number:** UN1824  
**Packing group:** III  
**Proper shipping name (technical name):** SODIUM HYDROXIDE SOLUTION  
**Label:** 8

### Land transport ADR/RID (cross-border):



**ADR/RID class:** 8 Corrosive substances  
**Danger code (Kemler):** 80  
**UN-Number:** 1824  
**Packaging group:** III  
**Label:** 8  
**Description of goods:** 1824 SODIUM HYDROXIDE SOLUTION

### Maritime transport IMDG:



**IMDG Class:** 8  
**UN Number:** 1824  
**Label:** 8  
**Packaging group:** III  
**EMS Number:** F-A,S-B  
**Marine pollutant:** No  
**Propper shipping name:** SODIUM HYDROXIDE SOLUTION

### Air transport ICAO-TI and IATA-DGR:



**ICAO/IATA Class:** 8  
**UN/ID Number:** 1824  
**Label:** 8  
**Packaging group:** III

(Contd. on page 6)

# Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2009

Reviewed on 06/15/2009

**Trade name: Denaturation Solution**

(Contd. of page 5)

**Propper shipping name:** SODIUM HYDROXIDE SOLUTION

## 15 Regulations

**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.

**Carcinogeny categories**

**EPA (Environmental Protection Agency)**

None of the ingredients are listed.

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

None of the ingredients are listed.

**NTP (National Toxicology Program)**

None of the ingredients are listed.

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

None of the ingredients are listed.

**MAK (German Maximum Workplace Concentration)**

None of the ingredients are listed.

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

None of the ingredients are listed.

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

None of the ingredients are listed.

**Product related hazard informations:**

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

**Hazard symbols:**

C Corrosive

**Hazard-determining components of labelling:**

sodium hydroxide

(Contd. on page 7)

# Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2009

Reviewed on 06/15/2009

**Trade name: Denaturation Solution**

(Contd. of page 6)

**Risk phrases:***Causes burns.***Safety phrases:***When using do not eat or drink.**Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).**In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.**Wear suitable protective clothing, gloves and eye/face protection.**In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).**This material and its container must be disposed of as hazardous waste.***National regulations:****Water hazard class:** *Generally not hazardous for water.***16 Other information**

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

**Department issuing MSDS:***Promega Corporation**Environmental Health and Safety Department**2800 Woods Hollow Road**Madison, WI**Ph:(608)274-4330***\* Data compared to the previous version altered.**

USA