

This kit has four Safety Data Sheets associated with it, which correspond to the kit components which contain hazardous or carcinogenic ingredients in excess of threshold amounts.

<b>Components</b>	<b>SDS Number</b>
TM-03-003, TM-04-003 Denaturing Solution	TM003MSDS
TM-03-005, TM-04-005 Desulfonation Buffer Concentrate	TM005MSDS
TM-03-007 Bisulfite Diluent	TM007MSDS
TM-03-008, TM-04-008 Magnetic Bead Solution	TM008MSDS

**1. Product and Supplier Identification****1.1 Product identification**

Product Name: Denaturing solution  
Part Number: TM-03-003, TM-04-003  
REACH No. A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

**1.2 Relevant identified uses of the substance or mixture and uses advised against:**

Identified uses : Laboratory chemicals, Manufacture of substances

**1.3 Supplier identification**

NuGEN Technologies, Inc.  
201 Industrial Road  
Suite 310  
San Carlos, CA 94070  
United States  
650-590-3600

**1.4 Emergency contact**

800-255-3924 (CHEMTEL US)  
813-248-0585 (CHEMTEL INTERNATIONAL)

**For research use only. Not intended for human or animal diagnostic or therapeutic uses.**

**2. Hazards Identification****2.1 Classification of the substance or mixture**

**Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]**

**Sodium hydroxide** Skin corrosion (Cat 1A)

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

C Corrosive R35

**2.2 Labelling and precautionary statements:**

**Labelling according to Regulation (EC) No 1272/2008 [CLP]**

Pictogram



**Hazard statement(s):** H314 Causes severe burns and eye damage.

**Precautionary statement(s):** P280 Wear protective gloves/protective clothing/eye protection/face protection.

# Safety Data Sheet

## Denaturing Solution

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 Effective Date: 13APR18

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	P273	Avoid release to the environment
	P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
	P310	Immediately call a poison center or doctor/physician.
<b>Supplemental hazard information (EU):</b>		None
<b>R-phrases(s):</b>	R35	Causes severe burns.
<b>S-phrases(s):</b>	S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
	S37/39	Wear suitable gloves and eye/face protection.
	S45	In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).
<b>2.3 Other hazards</b>		None

### 3. Composition/Information on Ingredients

#### 3.1 Mixtures

Component		Classification	Concentration (%/vol)
Sodium hydroxide			
CAS-No.	1310-73-2		
EC-No.	215-185-5	Skin Corr. 1A; H314	<4%
Index-No.	011-002-00-6		

### 4. First Aid Measures

#### 4.1 Description of first aid measures

##### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

##### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

##### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

##### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

##### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**4.2 Most important symptoms and effects, both acute and delayed**

To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly tested.

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

No data available.

**5. Firefighting Measures****5.1 Extinguishing media**

Suitable extinguishing media:

Use water spray, alcohol-resistant foam, dry powder or carbon dioxide.

**5.2 Special hazards arising from the substance or mixture:**

Sodium oxides

**5.3 Advice for firefighters**

Wear self-contained breathing apparatus for fire-fighting if necessary.

**5.4 Further information**

Use water spray to cool unopened containers.

**6. Accidental Release Measures****6.1 Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

**6.2 Environmental precautions**

Do not let product enter drains.

**6.3 Methods and materials for containment and cleaning up**

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

**6.4 Reference to other sections**

For disposal, see section 13.

**7. Handling and Storage****7.1 Precautions and safe handling**

Avoid inhalation of vapor or mist.

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

Store in a cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are open must be carefully resealed and kept upright to prevent leakage.

### 7.3 Specific end user(s)

No data available.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters:

Components with workplace control parameters

Component	CAS-No	Value	Control parameters	Basis
Sodium hydroxide	1310-73-2	STEL	2 mg/m <sup>3</sup>	UK. EH40 WEL – Workplace Exposure Limits

### 8.2 Exposure controls

#### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Personal protective equipment

##### Eye/face protection

Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

##### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standards EN 374 derived from it.

##### Body protection

Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

##### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respiratory type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

## 9. Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

Characteristic	Sodium hydroxide
a) Appearance	Form: liquid
b) Odor	No data available
c) Odor threshold	No data available
d) pH	No data available
e) Melting point/freezing point	No data available
f) Initial boiling point and range	No data available
g) Flash point	No data available
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability exposure limits	No data available
k) Vapor pressure	No data available
l) Vapor density	No data available
m) Relative density	No data available
n) Water solubility	No data available
o) Partition Coefficient: n-octanol/water	No data available
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	No data available
t) Oxidizing properties	No data available.

### 9.2 Other safety information

No data available.

## 10. Stability and Reactivity

### 10.1 Reactivity

No data available.

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No data available.

### 10.4 Conditions to avoid

No data available.

**10.5 Incompatible materials**

Acids, organic materials, chlorinated solvents, aluminum, phosphorus, tin, tin oxides, zinc.

**10.6 Hazardous decomposition products**

No data available.

**11. Toxicological Information****11.1 Information on toxicological effects****Acute toxicity**

No data available.

**Skin corrosion/irritation**

No data available.

**Serious eye damage/eye irritation**

No data available.

**Respiratory or skin sensitization**

No data available.

**Germ cell mutagenicity**

No data available.

**Carcinogenicity**

No component of this product present at levels greater or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**Reproductive**

No data available.

**Specific target organ toxicity – single exposure**

Inhalation – May cause respiratory irritation.

**Specific target organ toxicity – repeated exposure**

No data available.

**Aspiration hazard**

No data available.

**Additional information**

RTECS: VY8050000.

**12. Ecological Information****12.1 Toxicity**

No data available.

**12.2 Persistence and degradability**

No data available.

**12.3 Bioaccumulative potential**

No data available.

**12.4 Mobility in soil**

No data available.

**12.5 Results of PBT and vPvB assessment**

No data available.

**12.6 Other adverse effects**

No data available.

**13. Disposal Considerations****13.1 Waste treatment methods****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated packaging**

Dispose of as unused product.

**14. Transportation Information****14.1 UN number**                      ADR/RID: 1824      IMDG: 1824      IATA: 1824**14.2 UN proper shipping name**

ADR/RID: SODIUM HYDROXIDE SOLUTION

IMDG: SODIUM HYDROXIDE SOLUTION

IATA: SODIUM HYDROXIDE SOLUTION

**14.3 Transport hazard class**      ADR/RID: 8              IMDG: 8              IATA: 8**14.4 Packaging group**              ADR/RID: III              IMDG: III              IATA: III**14.5 Environmental hazards**      ADR/RID: yes              IMDG Marine              IATA: no  
Pollutant: no**14.6 Special precautions for user**

No data available.

**15. Regulatory Information**

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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

No data available.

**15.2 Chemical safety assessment**

No data available.



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**16. Other Information****16.1 Full text of H- code(s) and R-phrase(s) referred to under section 3.**

H314	Causes severe skin burns and eye damage.
Skin Corr.	Skin corrosion
C	Corrosive
R35	Causes severe burns.

**17. Disclaimer**

The information contained herein is based on the data available to us and is believed to be correct. However NuGEN Technologies, Inc. makes no warranty, expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof.

**1. Product and Supplier Identification****1.1 Product identification**

Product Name: Desulfonation Buffer Concentrate  
Part Number: TM-03-005, TM-04-005  
REACH No. A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

**1.2 Relevant identified uses of the substance or mixture and uses advised against:**

Identified uses : Laboratory chemicals, Manufacture of substances

**1.3 Supplier identification**

NuGEN Technologies, Inc.  
201 Industrial Road  
Suite 310  
San Carlos, CA 94070  
650-590-3600

**1.4 Emergency contact**

800-255-3924 (CHEMTEL US)  
813-248-0585 (CHEMTEL INTERNATIONAL)

**For research use only. Not intended for human or animal diagnostic or therapeutic uses.**

**2. Hazards Identification****2.1 Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008 [EU---GHS/CLP]

Sodium hydroxide Skin corrosion (Cat 1A)

Classification according to EU Directives 67/548/EEC or 1999/45/EC

C Corrosive R35

**2.2 Labelling and precautionary statements:**

Labelling according to Regulation (EC) No 1272/2008 [CLP]

Pictogram



**Hazard statement(s):** H314 Causes severe burns and eye damage.

**Precautionary statement(s):** P280 Wear protective gloves/protective clothing/eye protection/face protection.

P273 Avoid release to the environment

# Safety Data Sheet

## Desulfonation Buffer Concentrate

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	P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
	P310	Immediately call a poison center or doctor/physician.
<b>Supplemental hazard information (EU):</b>		None
<b>R-phrase(s):</b>	R35	Causes severe burns.
<b>S-phrase(s):</b>	S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
	S37/39	Wear suitable gloves and eye/face protection.
	S45	In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).
<b>2.3 Other hazards</b>	None	

### 3. Composition/Information on Ingredients

#### 3.1 Mixtures

Component		Classification	Concentration (%/vol)
Sodium hydroxide			
CAS-No.	1310-73-2		
EC-No.	215-185-5	Skin Corr. 1A; H314	<4%
Index-No.	011-002-00-6		

### 4. First Aid Measures

#### 4.1 Description of first aid measures

##### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

##### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

##### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

##### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

##### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**4.2 Most important symptoms and effects, both acute and delayed**

To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly tested.

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

No data available.

**5. Firefighting Measures****5.1 Extinguishing media**

Suitable extinguishing media:

Use water spray, alcohol--resistant foam, dry powder or carbon dioxide.

**5.2 Special hazards arising from the substance or mixture:**

Sodium oxides.

**5.3 Advice for firefighters**

Wear self-contained breathing apparatus for fire-fighting if necessary.

**5.4 Further information**

Use water spray to cool unopened containers.

**6. Accidental Release Measures****6.1 Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

**6.2 Environmental precautions**

Do not let product enter drains.

**6.3 Methods and materials for containment and cleaning up**

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

**6.4 Reference to other sections**

For disposal, see section 13.

**7. Handling and Storage****7.1 Precautions and safe handling**

Avoid inhalation of vapor or mist.

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

Store in a cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are open must be carefully resealed and kept upright to prevent leakage.

### 7.3 Specific end user(s)

No data available.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters:

Components with workplace control parameters

Component	CAS-No	Value	Control parameters	Basis
Sodium hydroxide	1310-73-2	STEL	2 mg/m <sup>3</sup>	UK. EH40 WEL – Workplace Exposure Limits

### 8.2 Exposure controls

#### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Personal protective equipment

##### Eye/face protection

Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

##### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standards EN 374 derived from it.

##### Body protection

Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

##### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respiratory type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

## 9. Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

Characteristic	Sodium hydroxide
a) Appearance	Form: liquid
b) Odor	No data available
c) Odor threshold	No data available
d) pH	No data available
e) Melting point/freezing point	No data available
f) Initial boiling point and range	No data available
g) Flash point	No data available
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability exposure limits	No data available
k) Vapor pressure	No data available
l) Vapor density	No data available
m) Relative density	No data available
n) Water solubility	No data available
o) Partition Coefficient: n-octanol/water	No data available
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	No data available
t) Oxidizing properties	No data available.

### 9.2 Other safety information

No data available.

## 10. Stability and Reactivity

### 10.1 Reactivity

No data available.

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No data available.

### 10.4 Conditions to avoid

No data available.

**10.5 Incompatible materials**

Acids, organic materials, chlorinated solvents, aluminum, phosphorus, tin, tin oxides, zinc.

**10.6 Hazardous decomposition products**

No data available.

**11. Toxicological Information****11.1 Information on toxicological effects****Acute toxicity**

No data available.

**Skin corrosion/irritation**

No data available.

**Serious eye damage/eye irritation**

No data available.

**Respiratory or skin sensitization**

No data available.

**Germ cell mutagenicity**

No data available.

**Carcinogenicity**

No component of this product present at levels greater or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**Reproductive**

No data available.

**Specific target organ toxicity – single exposure**

Inhalation – May cause respiratory irritation.

**Specific target organ toxicity – repeated exposure**

No data available.

**Aspiration hazard**

No data available.

**Additional information**

RTECS: VY8050000.

**12. Ecological Information****12.1 Toxicity**

No data available.

**12.2 Persistence and degradability**

No data available.

**12.3 Bioaccumulative potential**

No data available.

**12.4 Mobility in soil**

No data available.

**12.5 Results of PBT and vPvB assessment**

No data available.

**12.6 Other adverse effects**

No data available.

**13. Disposal Considerations****13.1 Waste treatment methods****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated packaging**

Dispose of as unused product.

**14. Transportation Information****14.1 UN number**                      ADR/RID: 1824      IMDG: 1824      IATA: 1824**14.2 UN proper shipping name**

ADR/RID: SODIUM HYDROXIDE SOLUTION

IMDG: SODIUM HYDROXIDE SOLUTION

IATA: SODIUM HYDROXIDE SOLUTION

**14.3 Transport hazard class**      ADR/RID: 8              IMDG: 8              IATA: 8**14.4 Packaging group**              ADR/RID: III              IMDG: III              IATA: III**14.5 Environmental hazards**      ADR/RID: yes              IMDG Marine      IATA: no  
Pollutant: no**14.6 Special precautions for user**

No data available.

**15. Regulatory Information**

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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

No data available.

**15.2 Chemical safety assessment**

No data available.



# Safety Data Sheet

## Desulfonation Buffer Concentrate

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Effective Date: 13APR18

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### 16. Other Information

#### 16.1 Full text of H- code(s) and R-phrase(s) referred to under section 3.

H314	Causes severe skin burns and eye damage.
Skin Corr.	Skin corrosion
C	Corrosive
R35	Causes severe burns.

### 17. Disclaimer

The information contained herein is based on the data available to us and is believed to be correct. However NuGEN Technologies, Inc. makes no warranty, expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof.

**1. Product and Supplier Identification****1.1 Product identification**

Product Name: Bisulfite Diluent  
Part Number: TM-03-007  
REACH No. A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

**1.2 Relevant identified uses of the substance or mixture and uses advised against:**

Identified uses : Laboratory chemicals, Manufacture of substances

**1.3 Supplier identification**

NuGEN Technologies  
201 Industrial Road  
San Carlos, CA 94070  
United States  
650-590-3644

**1.4 Emergency contact**

800-255-3924 (CHEMTEL US)  
813-248-0585 (CHEMTEL INTERNATIONAL)

**For research use only. Not intended for human or animal diagnostic or therapeutic uses.**

**2. Hazards Identification****2.1 Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]

**Sodium hydroxide** Skin corrosion (Cat1A)

Classification according to EU Directives 67/548/EEC or 1999/45/EC

C Corrosive R35

**2.2 Labelling and precautionary statements:**

Labelling according to Regulation (EC) No 1272/2008 [CLP]

Pictogram



**Hazard statement(s):** H314 Causes severe burns and eye damage.

# Safety Data Sheet

## Bisulfite Diluent

Document Number: TM007MSDS Rev 1  
 Effective Date: 13APR18

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<b>Precautionary statement(s):</b>	P280	Wear protective gloves/protective clothing/eye protection/face protection.
	P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
	P310	Immediately call a poison center or doctor/physician.
<b>Supplemental hazard information (EU):</b>		None
<b>R-phrase(s):</b>	R35	Causes severe burns.
<b>S-phrase(s):</b>	S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
	S37/39	Wear suitable gloves and eye/face protection.
	S45	In case of accident or if you feel unwell, seek medical advice immediately (show label where possible). instructions/Safety data sheets.

### 2.3 Other hazards

None

## 3. Composition/Information on Ingredients

### 3.1 Mixtures

Component		Classification	Concentration (%/vol)
<b>Sodium hydroxide</b>			
CAS-No.	1310-73-2	Skin Corr. 1A; H314	5-10%
EC-No.	215-185-5		
Index-No.	011-002-00-6		

## 4. First Aid Measures

### 4.1 Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Consult a physician. Take off contaminated clothing and shoes immediately.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed**

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**4.2 Most important symptoms and effects, both acute and delayed**

To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly tested.

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

No data available

**5. Firefighting Measures****5.1 Extinguishing media**

Suitable extinguishing media:

Use water spray, alcohol-resistant foam, dry powder or carbon dioxide.

**5.2 Special hazards arising from the substance or mixture**

Sodium oxides.

**5.3 Advice for firefighters**

Wear self-contained breathing apparatus for fire-fighting if necessary.

**5.4 Further information**

Use water spray to cool unopened containers.

**6. Accidental Release Measures****6.1 Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

**6.2 Environmental precautions**

Do not let product enter drains.

**6.3 Methods and materials for containment and cleaning up**

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

**6.4 Reference to other sections**

For disposal, see section 13.

**7. Handling and Storage****7.1 Precautions and safe handling**

Avoid inhalation of vapor or mist.

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

Store in a cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are open must be carefully resealed and kept upright to prevent leakage.

### 7.3 Specific end user(s)

No data available.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

Components with workplace control parameters.

Component	CAS-No	Value	Control parameters	Basis
Sodium hydroxide	1310-73-2	STEL	2 mg/m <sup>3</sup>	UK. EH40 WEL – Workplace exposure limits

### 8.2 Exposure controls

#### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Personal protective equipment

##### Eye/face protection

Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

##### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standards EN 374 derived from it.

##### Body protection

Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

##### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respiratory type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

## 9. Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

Characteristic	Sodium hydroxide
a) Appearance	Form: liquid
b) Odor	No data available
c) Odor threshold	No data available
d) pH	No data available
e) Melting point/freezing point	No data available
f) Initial boiling point and range	No data available
g) Flash point	No data available
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability exposure limits	No data available
k) Vapor pressure	No data available
l) Vapor density	No data available
m) Relative density	No data available
n) Water solubility	No data available
o) Partition Coefficient: n-octanol/water	No data available
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	No data available
t) Oxidizing properties	No data available.

### 9.2 Other safety information

No data available

## 10. Stability and Reactivity

### 10.1 Reactivity

No data available.

### 10.2 Chemical stability

Stable under recommended storage conditions.

**10.3 Possibility of hazardous reactions**

No data available.

**10.4 Conditions to avoid**

No data available.

**10.5 Incompatible materials**

Acids, organic materials, chlorinated solvents, aluminium, phosphorus, tin, tin oxides, zinc.

**10.6 Hazardous decomposition products**

No data available.

**11. Toxicological Information****11.1 Information on toxicological effects****Acute toxicity**

No data available.

**Skin corrosion/irritation**

No data available.

**Serious eye damage/eye irritation**

No data available.

**Respiratory or skin sensitization**

No data available.

**Germ cell mutagenicity**

No data available.

**Carcinogenicity**

No component of this product present at levels greater or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**Reproductive**

No data available.

**Specific target organ toxicity – single exposure**

Inhalation – May cause respiratory irritation.

**Specific target organ toxicity – repeated exposure**

No data available.

**Aspiration hazard**

No data available.

**Additional information**

RTECS: No data available.

**12. Ecological Information****12.1 Toxicity**

No data available.

**12.2 Persistence and degradability**

No data available.

**12.3 Bioaccumulative potential**

No data available.

**12.4 Mobility in soil**

No data available.

**12.5 Results of PBT and vPvB assessment**

No data available.

**12.6 Other adverse effects**

No data available.

**13. Disposal Considerations****13.1 Waste treatment methods****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated packaging**

Dispose of as unused product.

**14. Transportation Information****14.1 UN number**                      ADR/RID: 1824      IMDG: 31824      IATA: 1824**14.2 UN proper shipping name**

ADR/RID: SODIUM HYDROXIDE SOLUTION

IMDG: SODIUM HYDROXIDE SOLUTION

IATA: SODIUM HYDROXIDE SOLUTION

**14.3 Transport hazard class**      ADR/RID: 8              IMDG: 8              IATA: 8**14.4 Packaging group**              ADR/RID: III              IMDG: III              IATA: III**14.5 Environmental hazards**      ADR/RID: yes              IMDG Marine              IATA: no  
Pollutant: no**14.6 Special precautions for user**

No data available.

**15. Regulatory Information**

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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

No data available.

**15.2 Chemical safety assessment**

No data available.



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**16. Other Information****16.1 Full text of H- code(s) and R-phrases referred to under section 3.**

H314	Causes severe skin burns and eye damage.
Skin Corr.	Skin corrosion.
C	Corrosive.
R35	Causes severe burns.

**17. Disclaimer**

The information contained herein is based on the data available to us and is believed to be correct. However NuGEN Technologies, Inc. makes no warranty, expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof.

**1. Product and Supplier Identification****1.1 Product identification**

Product Name: Magnetic Bead Solution  
Part Number: TM-03-008, TM-04-008  
REACH No. A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

**1.2 Relevant identified uses of the substance or mixture and uses advised against:**

Identified uses : Laboratory chemicals, Manufacture of substances

**1.3 Supplier identification**

NuGEN Technologies, Inc.  
201 Industrial Road  
Suite 310  
San Carlos, CA 94070  
650-590-3600

**1.4 Emergency contact**

800-255-3924 (CHEMTEL US)  
813-248-0585 (CHEMTEL INTERNATIONAL)

**For research use only. Not intended for human or animal diagnostic or therapeutic uses.**

**2. Hazards Identification****2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]**

Acute toxicity, Oral (Category 2), H300  
Acute aquatic toxicity (Category 1), H400  
Sodium azide Chronic aquatic toxicity (Category 1), H410  
For the full text of the H-Statements mentioned in this Section, see Section 16

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

T+ Very toxic R28,R32  
N Dangerous for the environment R50/53

For the full text of the R-phrases mentioned in this Section, see Section 16

**2.2 Labelling and precautionary statements:**

Labelling according to Regulation (EC) No 1272/2008 [CLP]

Pictogram



# Safety Data Sheet

## Magnetic Bead Solution

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<b>Hazard statement(s):</b>	H300	Fatal if swallowed
	H410	Very toxic to aquatic life with long lasting effects
<b>Precautionary statement(s):</b>	P264	Wash hands thoroughly after handling
	P273	Avoid release to the environment
	P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician
	P501	Dispose of contents/ container to an approved waste disposal plant
<b>Supplemental hazard information (EU):</b>	EUH032	Contact with acids liberates very toxic gas.

### 2.3 Other hazards

Sodium Azide may react with lead and copper plumbing to form highly explosive metal azides.  
 Rapidly absorbed through skin.

## 3. Composition/Information on Ingredients

### 3.1 Mixtures

Component		Classification	Concentration (%/vol)
Sodium azide			
CAS-No.	26628-22-8	Acute Tox. 2; Acute Tox. 1; Aquatic Acute 1; Aquatic Chronic 1; H300 + H310, H410, EUH032	1 mM
EC-No.	247-852-1		
Index-No.	011-004-00-7		

## 4. First Aid Measures

### 4.1 Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water as a precaution.

**If swallowed**

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**4.2 Most important symptoms and effects, both acute and delayed**

The most important symptoms and effects are described in Section 11.

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

No data available.

**5. Firefighting Measures****5.1 Extinguishing media**

Suitable extinguishing media:  
Dry powder.

**5.2 Special hazards arising from the substance or mixture:**

Sodium oxides.

**5.3 Advice for firefighters**

Wear self-contained breathing apparatus for fire-fighting if necessary.

**5.4 Further information**

No data available.

**6. Accidental Release Measures****6.1 Personal precautions, protective equipment and emergency procedures**

Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

**6.2 Environmental precautions**

Do not let product enter drains.

**6.3 Methods and materials for containment and cleaning up**

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

**6.4 Reference to other sections**

For disposal, see section 13.

**7. Handling and Storage****7.1 Precautions and safe handling**

No data available.

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

Store in a cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are open must be carefully resealed and kept upright to prevent leakage.

### 7.3 Specific end user(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters:

Components with workplace control parameters

Component	CAS-No	Value	Control parameters	Basis
Sodium azide	26628-22-8	STEL	0.3 mg/m <sup>3</sup>	UK. EH40 WEL Workplace Exposure Limits
	Remarks	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.		
		TWA	0.1 mg/m <sup>3</sup>	UK. EH40 WEL Workplace Exposure Limits
		Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.		
		TWA	0.1 mg/m <sup>3</sup>	Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values Identifies the possibility of significant uptake through the skin Indicative
		STEL	0.3 mg/m <sup>3</sup>	Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
		Identifies the possibility of significant uptake through the skin Indicative		

### 8.2 Exposure controls

#### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Personal protective equipment

##### Eye/face protection

Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

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### **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standards EN 374 derived from it.

### **Body protection**

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### **Control of environmental exposure**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge in to the environment must be avoided.

### 9. Physical and Chemical Properties

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

Characteristic	Sodium azide
a) Appearance	Form: crystalline. Color: white
b) Odor	No data available
c) Odor threshold	No data available
d) pH	10 at 65 g/L at 25 °C
e) Melting point/freezing point	275 °C
f) Initial boiling point and range	No data available
g) Flash point	No data available
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability exposure limits	No data available
k) Vapor pressure	0.01 hPa at 20 °C
l) Vapor density	No data available
m) Relative density	1.850 g/cm <sup>3</sup> at 20 °C
n) Water solubility	No data available
o) Partition Coefficient: n-octanol/water	No data available
p) Auto-ignition temperature	No data available
q) Decomposition temperature	300 °C
r) Viscosity	No data available
s) Explosive properties	No data available
t) Oxidizing properties	No data available.

#### 9.2 Other safety information

Bulk density = 0.8 kg/m<sup>3</sup>

### 10. Stability and Reactivity

#### 10.1 Reactivity

No data available.

#### 10.2 Chemical stability

Stable under recommended storage conditions.

#### 10.3 Possibility of hazardous reactions

No data available.

#### 10.4 Conditions to avoid

An explosion occurred when a mixture of sodium azide, methylene chloride, dimethylsulfoxide, and sulfuric acid were being concentrated on a rotary evaporator.

**10.5 Incompatible materials**

Halogenated hydrocarbon, metals, acids, acid chlorides.

**10.6 Hazardous decomposition products**

Other decomposition products -no data available In the event of fire: see section 5.

**11. Toxicological Information****11.1 Information on toxicological effects****Acute toxicity**

LD<sub>50</sub> Oral - rabbit - 10 mg/kg

LC<sub>50</sub> Inhalation -rat -37 mg/m<sup>3</sup>

Remarks: Sense organs and special senses (nose, eye, ear, and taste): Eye: other.

Behavioral: Convulsions or effect on seizure threshold. Lungs, thorax, or respiration: Structural or functional change in trachea or bronchi.

LD<sub>50</sub> Dermal - rabbit - 20 mg/kg

**Skin corrosion/irritation**

No data available.

**Serious eye damage/eye irritation**

No data available.

**Respiratory or skin sensitization**

No data available.

**Germ cell mutagenicity**

No data available.

**Carcinogenicity**

No component of this product present at levels greater or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**Reproductive**

No data available.

**Specific target organ toxicity – single exposure**

Inhalation – May cause respiratory irritation.

**Specific target organ toxicity – repeated exposure**

No data available.

**Aspiration hazard**

No data available.

**Additional information**

RTECS: VY8050000.

Nausea, headache, vomiting, laboratory experiments in animals have shown sodium azide to produce a profound hypotensive effect, demyelination of myelinated nerve fibers in the central nervous system, testicular damage, blindness, attacks of rigidity, and hepatic and cerebral effects.



### 12. Ecological Information

#### 12.1 Toxicity

Toxicity to *daphnia* and other aquatic invertebrates. EC<sub>50</sub> - *Daphnia pulex* (Water flea) - 4.2 mg/L - 48h

#### 12.2 Persistence and degradability

No data available.

#### 12.3 Bioaccumulative potential

No data available.

#### 12.4 Mobility in soil

No data available.

#### 12.5 Results of PBT and vPvB assessment

No data available.

#### 12.6 Other adverse effects

Very toxic to aquatic life with long lasting effects.

### 13. Disposal Considerations

#### 13.1 Waste treatment methods

##### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

##### Contaminated packaging

Dispose of as unused product.

### 14. Transportation Information

**14.1 UN number**                      ADR/RID: 1687      IMDG: 1687      IATA: 1687

#### 14.2 UN proper shipping name

ADR/RID: SODIUM AZIDE  
 IMDG: SODIUM AZIDE  
 IATA: SODIUM AZIDE

**14.3 Transport hazard class**      ADR/RID: 6.1      IMDG: 6.1      IATA: 6.1

**14.4 Packaging group**                ADR/RID: II      IMDG: II      IATA: II

**14.5 Environmental hazards**      ADR/RID: yes      IMDG Marine Pollutant: yes      IATA: no

#### 14.6 Special precautions for user

No data available.

**15. Regulatory Information**

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**15.1 Safety, health and environmental regulations/Legislation specific for the substance or mixture**

No data available.

**15.2 Chemical safety assessment**

No data available.

**16. Other Information****16.1 Full text of H-Statements referred to under sections 2 and 3.**

Acute Tox. Acute toxicity.

Aquatic Acute Acute aquatic toxicity.

Aquatic Chronic Chronic aquatic toxicity.

EUH032 Contact with acids liberates very toxic gas.

H300 Fatal if swallowed.

H300 + H310 Fatal if swallowed or in contact with skin

**16.2 Full text of R-phrases referred to under sections 2 and 3**

N Dangerous for the environment.

T+ Very toxic.

R27 Very toxic in contact with skin.

R28 Very toxic if swallowed.

R32 Contact with acids liberates very toxic gas.

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**17. Disclaimer**

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