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

- Product identifier:
- Trade name: 10N Sodium Hydroxide (NaOH 40%)
- 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
- Details of the supplier of the safety data sheet
  - Manufacturer/Supplier:
    NuGeneration Technologies, LLC (dba NuGenTec)
    1155 Park Avenue, Emeryville, CA 94608
    salessteam@nugentec.com
    www.nugentec.com
  - 1-888-996-8436 or 1-707-820-4080 for product information
  - Emergency telephone number:
    PERS Emergency Response: Domestic and Canada - 1-800-633-8253, International 1-801-629-0667

2 Hazards identification

- Classification of the substance or mixture
  - GHS05 corrosion
  - Skin Corr. 1A  H314  Causes severe skin burns and eye damage.
  - Eye Dam. 1  H318  Causes serious eye damage.
- Label elements
  - GHS label elements
    - The product is classified and labelled according to the Globally Harmonised System (GHS).
  - Hazard pictograms
    - GHS05
- Signal word: Danger
- Hazard-determining components of labelling:
  - Sodium Hydroxide
- Hazard statements:
  - Causes severe skin burns and eye damage.
- Precautionary Statements:
  - Precautionary statements
    - Do not breathe dusts or mists.
    - Wear eye protection / face protection.
    - Wash thoroughly after handling.
Trade name: 10N Sodium Hydroxide (NaOH 40%)

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER/doctor.
Specific treatment (see on this label).
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Wash contaminated clothing before reuse.
IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards:
None known

Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

3 Composition/information on ingredients

<table>
<thead>
<tr>
<th>CAS: 1310-73-2</th>
<th>Water, distilled water, deionized water</th>
<th>40-60%</th>
</tr>
</thead>
<tbody>
<tr>
<td>EINECS: 215-185-5</td>
<td>Sodium Hydroxide</td>
<td>Skin Corr. 1A, H314</td>
</tr>
<tr>
<td>Index number: 011-002-00-6</td>
<td>25-50%</td>
<td></td>
</tr>
</tbody>
</table>

4 First aid measures

Description of 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.
If skin irritation occurs, consult a doctor.
After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
After swallowing: Drink plenty of water and provide fresh air. Call for a doctor immediately.
Information for doctor:
Most important symptoms and effects, both acute and delayed
No further relevant information available.
Indication of any immediate medical attention and special treatment needed
No further relevant information available.
5 Firefighting measures

- Extinguishing media
- Suitable extinguishing agents:
  - CO₂ powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- Special hazards arising from the substance or mixture: No further relevant information available.
- Advice for firefighters
- Protective equipment:
  - As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear to prevent contact with skin and eyes.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures
  - Wear protective equipment. Keep unprotected persons away.
- Environmental precautions:
  - Dilute with plenty of water.
  - Do not allow to enter sewers, surface or ground water.
- Methods and material for containment and cleaning up:
  - Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
  - Use neutralising agent.
  - Dispose of contaminated materials as waste according to item 13.
  - Ensure adequate ventilation.
  - Dispose of the material collected according to regulations.
- Reference to other sections
  - See Section 7 for information on safe handling.
  - See Section 8 for information on personal protection equipment.
  - See Section 13 for disposal information.

7 Handling and storage

- Handling:
- Precautions for safe handling:
  - Ensure good ventilation/exhaustion at the workplace.
  - Prevent formation of aerosols.
- Information about fire - and explosion protection: No special measures required.
- Conditions for safe storage, including any incompatibilities
- Storage:
  - Requirements to be met by storerooms and receptacles: Store in the original container.
  - Information about storage in one common storage facility: Not required.
  - Further information about storage conditions: Keep container tightly sealed.
  - Specific end use(s): No further relevant information available.
8 Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.
· **Control parameters**

- **Ingredients with limit values that require monitoring at the workplace:**

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Substance</th>
<th>NES Limitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1310-73-2</td>
<td>Sodium Hydroxide</td>
<td>2 mg/m³</td>
</tr>
</tbody>
</table>

· **Additional information:** The lists valid during the making were used as basis.
· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
The usual precautionary measures are to be adhered to when handling chemicals.
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.
· **Respiratory protection:** Not required.
· **Protection of hands:**

[Protective gloves]

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
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.
· **Penetration time of glove material:**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:**

[Tightly sealed goggles]
**9 Physical and chemical properties**

- Information on basic physical and chemical properties
  - General Information
  - Appearance:
    - Form: Liquid
    - Colour: Colourless
    - Odour: Odourless
  - pH-value @ 20 °C: >13.7
  - Change in condition
    - Melting point/Melting range: Not determined.
    - Boiling point/Boiling range: 100 °C
  - Flash point: Not applicable.
  - Flammability (solid, gaseous): Not applicable.
  - Ignition temperature: Not determined
  - Decomposition temperature: Not determined.
  - Self-igniting: Product is not self-igniting.
  - Danger of explosion: Product does not present an explosion hazard.
- Explosion limits:
  - Lower: 0,0 Vol %
  - Upper: 0,0 Vol %
- Vapour pressure @ 20 °C: 23 hPa
- Density @ 20 °C: 1.452 g/cm³
- 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 @ 20 °C: 1 mPas
  - Kinematic: Not determined.
- Solvent content:
  - Organic solvents: 0.0 %
  - Water: 60.0 %
- Solids content: 40.0 %
- Other information: No further relevant information available.

(Contd. on page 6)
**10 Stability and reactivity**

- **Reactivity:** No further relevant information available.
- **Chemical stability:** Stable under normal conditions.
- **Thermal decomposition / conditions to be avoided:**
  No decomposition if used according to specifications.
- **Possibility of hazardous reactions:** No dangerous reactions known.
- **Conditions to avoid:** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

**11 Toxicological information**

- **Information on toxicological effects**
  - **Acute toxicity**
    - **LD/LC50 values relevant for classification:**
      - **1310-73-2 Sodium Hydroxide**
        - Oral LD50 2000 mg/kg (rat)
  - **Primary irritant effect:**
    - **Skin corrosion/irritation** Strong caustic effect on skin and mucous membranes.
    - **Serious eye damage/irritation**
      - Strong caustic effect.
      - Strong irritant with the danger of severe eye injury.
      - Corrosive effect.
      - Causes serious eye irritation.
  - **Additional toxicological information:**
    - Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
    - The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
      - Corrosive
      - Irritant
    - Swallowing will lead to a corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.

**12 Ecological information**

- **Toxicity**
  - **Aquatic toxicity:**
    - **1310-73-2 Sodium Hydroxide**
      - EC50 40 mg/l (daphnia)
  - **Persistence and degradability** No further relevant information available.
  - **Behaviour in environmental systems:**
    - **Bioaccumulative potential** No further relevant information available.
  - **Mobility in soil** No further relevant information available.
### Additional ecological information:

#### General notes:
- Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- Must not reach sewage water or drainage ditch undiluted or unneutralised.
- 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.

#### Results of PBT and vPvB assessment
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

#### Other adverse effects
- No further relevant information available.

### 13 Disposal considerations

#### Waste treatment methods
- **Recommendation:**
  - Must not be disposed together with household garbage. Do not allow product to reach sewage system. Observe all federal, state and local environmental regulations when disposing of this material.

#### Uncleaned packaging:
- **Recommendation:** Disposal must be made according to official regulations.

#### Recommended cleansing agents:
- Water, if necessary together with cleansing agents.

### 14 Transport information

#### UN-Number
- UN3266

#### ADG, IMDG, IATA
- UN3266 CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Sodium Hydroxide)
- CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Sodium Hydroxide)

#### Transport hazard class(es)
- **Class**
  - 8 (C5) Corrosive substances.
- **Label**
  - 8
Trade name: 10N Sodium Hydroxide (NaOH 40%)

- IMDG, IATA

- Class 8 Corrosive substances.
- Label 8
- Packing group
- ADG, IMDG, IATA II
- Environmental hazards: Not applicable.
- Special precautions for user Warning: Corrosive substances.
- Danger code (Kemler): 88
- EMS Number: F-A, S-B
- Segregation groups Alkalis
- Transport in bulk according to Annex II of Marpol and the IBC Code Not applicable.

Transport/Additional information:

- ADG
  - Limited quantities (LQ) 1L
  - Excepted quantities (EQ) Code: E2
    Maximum net quantity per inner packaging: 30 ml
    Maximum net quantity per outer packaging: 500 ml
- Transport category 2
- Tunnel restriction code E

- IMDG
  - Limited quantities (LQ) 0
  - Excepted quantities (EQ) Code: E0
    Not permitted as Excepted Quantity
- UN "Model Regulation":
  UN 3266 CORROSIVE LIQUID, BASIC, INORGANIC,
  N.O.S. (SODIUM HYDROXIDE), 8, II

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
  - Australian Inventory of Chemical Substances
    All ingredients are listed.
  - Standard for the Uniform Scheduling of Medicines and Poisons
    1310-73-2 Sodium Hydroxide S5, S6, S10
  - GHS label elements
    The product is classified and labelled according to the Globally Harmonised System (GHS).
Trade name: 10N Sodium Hydroxide (NaOH 40%)

- Hazard pictograms
  
  GHS05

- Signal word: Danger

- Hazard-determining components of labelling:
  Sodium Hydroxide

- Hazard statements:
  Causes severe skin burns and eye damage.

- Precautionary statements:
  Do not breathe dusts or mists.
  Wear eye protection / face protection.
  Wash thoroughly after handling.
  IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
  IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  Immediately call a POISON CENTER/doctor.
  Specific treatment (see on this label).
  IF INHALED: Remove person to fresh air and keep comfortable for breathing.
  Wash contaminated clothing before reuse.
  IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
  Store locked up.
  Dispose of contents/container in accordance with local/regional/national/international regulations.

- Directive 2012/18/EU

- Named dangerous substances - ANNEX I None of the ingredients are listed.

- National regulations:
  The product is subject to be labeled according to the prevailing version of the regulations on hazardous substances.

- 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.

- Relevant phrases
  H314 Causes severe skin burns and eye damage.

- 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
  IATA: International Air Transport Association
  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)
  LC50: Lethal concentration, 50 percent
  LD50: Lethal dose, 50 percent
Trade name: 10N Sodium Hydroxide (NaOH 40%)

PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

* Data compared to the previous version altered.

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