SAFETY DATA SHEET
Sodium hydroxide (Caustic Soda Pearl)

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier
Product name Sodium hydroxide (Caustic Soda Pearl)
REACH Registration number 01-2119457892-27-XXXX
REACH Registration notes mono-constituent substance

1.2. Relevant identified uses of the substance or mixture and uses advised against
Uses advised against No specific uses advised against are identified.

1.3. Details of the supplier of the safety data sheet
SUPPLIER Kilrock Products
Unit 1b Alma Road
Industrial Estate
Alma Road
Chesham
Bucks
HP5 3HB
Tel- 01494 793900
Fax- 01494 793400
velda@kilrock.co.uk

1.4. Emergency telephone number
+44 (0) 1494 793 900

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture
Classification (EC 1272/2008)
Hazard
Human health Skin Corr. 1A - H314; Eye Dam. 1 - H318
Environment Not classified.
Classification (67/548/EEC) C;R35.
The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Human health
Corrosive. Prolonged contact causes serious eye and tissue damage.

Environment
The product contains a substance which is hazardous to aquatic organisms and which may cause long term adverse effects in the aquatic environment. See section 12 as well.

Physical and Chemical Hazards
Resultant solutions are alkaline (basic) and corrosive to some metals.

2.2. Label elements
Label In Accordance With (EC) No. 1272/2008
Sodium hydroxide

Signal Word Danger

Hazard Statements

H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.

Precautionary Statements

P280 Wear protective gloves, eye and face protection.
P301+330+331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/physician.
P320 Specific treatment is urgent (see medical advice on this label).
P501 Dispose of contents/container in accordance with national regulations.

Supplementary Precautionary Statements

P234 Keep only in original container.
P261 Avoid breathing dust.
P264 Wash contaminated skin thoroughly after handling.
P303+361+353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P363 Wash contaminated clothing before reuse.
P405 Store locked up.

2.3. Other hazards

This product does not contain any PBT or vPvB substances.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

<table>
<thead>
<tr>
<th>SODIUM HYDROXIDE</th>
<th>&gt;98%</th>
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<tbody>
<tr>
<td>CAS-No.: 1310-73-2</td>
<td>EC No.: 215-185-5</td>
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<table>
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<tr>
<th>Classification (EC 1272/2008)</th>
<th>Classification (67/548/EEC)</th>
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<tbody>
<tr>
<td>Met. Corr. 1 - H290</td>
<td>C;R35</td>
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<tr>
<td>Skin Corr. 1A - H314</td>
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<tr>
<td>Eye Dam. 1 - H318</td>
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</tr>
</tbody>
</table>

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General information
Immediately remove affected person from source of exposure. Provide first aid, rest, warmth and fresh air. First aiders should avoid direct contact with this product and should wear protective gloves, goggles and clothing.

Inhalation
Keep the affected person warm and at rest. Get prompt medical attention.
Sodium hydroxide

Ingestion
NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! Rinse mouth thoroughly. Get medical attention immediately!

Skin contact
Remove contaminated clothing. Wash the skin immediately with soap and water. Get medical attention promptly if symptoms occur after washing.

Eye contact
Promptly rinse eyes with plenty of clean water while lifting the eyelids. Continue to rinse for at least 15 minutes. Continue until the eyes are free of all traces of contamination. Get immediate medical attention.

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

Inhalation
Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases.

Ingestion
May cause chemical burns in mouth and throat.

Skin contact
Burning pain and severe corrosive skin damage.

Eye contact
Corneal damage.

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

No recommendation given, but first aid may still be required in case of accidental exposure, inhalation or ingestion of this chemical. If in doubt, GET MEDICAL ATTENTION PROMPTLY!

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Extinguishing media
The product is non-combustible. Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media
Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products
No hazardous decomposition products.

Unusual Fire & Explosion Hazards
No unusual fire or explosion hazards noted.

Specific hazards
The product is non-combustible. If heated, corrosive vapours may be formed.

5.3. Advice for firefighters

Protective equipment for fire-fighters
Wear self-contained breathing apparatus and full protective clothing. Keep all unnecessary people away. Fire water run-off must not be allowed to contaminate ground or enter drains, sewers or water courses. Provide bunding against fire water run-off.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Wear protective clothing (see Section 8). Keep unnecessary people at a safe distance.

6.2. Environmental precautions

Do not allow ANY environmental contamination. Cover all drains and sewers. Avoid spreading spilled material.

6.3. Methods and material for containment and cleaning up

DO NOT TOUCH SPILLED MATERIAL! Remove by vacuuming. Place into a clearly labelled container for recovery or disposal (see section 13). Rinse site with copious amounts of water, which should not be allowed into drains, sewers or watercourses.
Sodium hydroxide

6.4. Reference to other sections

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling
Prevent spilling, skin and eye contact. Use only with adequate ventilation. Observe occupational exposure limits and minimise the risk of inhalation of dust.

7.2. Conditions for safe storage, including any incompatibilities
Store in tightly closed original container in a dry, cool and well-ventilated place. Stored containers should be routinely inspected for damage and/or leakage.

7.3. Specific end use(s)
For industrial use only.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

<table>
<thead>
<tr>
<th>Name</th>
<th>STD</th>
<th>TWA - 8 Hrs</th>
<th>STEL - 15 Min</th>
<th>Notes</th>
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<tbody>
<tr>
<td>SODIUM HYDROXIDE</td>
<td>WEL</td>
<td></td>
<td>2 mg/m³</td>
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</table>

WEL = Workplace Exposure Limit.

SODIUM HYDROXIDE (CAS: 1310-73-2)

<table>
<thead>
<tr>
<th>DNEL</th>
<th></th>
<th></th>
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<tbody>
<tr>
<td>Industry</td>
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<tr>
<td>Inhalation.</td>
<td></td>
<td></td>
<td>Long Term</td>
<td>Local Effects</td>
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<tr>
<td>Consumer</td>
<td></td>
<td></td>
<td>Long Term</td>
<td>Local Effects</td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Process conditions
Provide eyewash, quick drench.

Engineering measures
Provide adequate ventilation. Observe occupational exposure limits and minimize the risk of inhalation of vapours.

Respiratory equipment
If ventilation is insufficient suitable respiratory protection must be provided.
Seek advice and recommendations of the manufacturer or supplier of equipment

Hand protection
Wear suitable protective gloves conforming to EN 374. Seek recommendations from manufacturer or supplier. After using gloves the hands should be washed and thoroughly dried and a suitable moisturiser applied. Suitable gloves may include - Nitrile. Butyl rubber.

Eye protection
Wear tightly fitting safety goggles conforming to EN 166.

Other Protection
Wear appropriate clothing to prevent any possibility of skin contact.

Hygiene measures
DO NOT SMOKE IN WORK AREA! Wash hands at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes wet or contaminated. Promptly remove any clothing that becomes contaminated.

When using do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
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<tbody>
<tr>
<td>Appearance</td>
<td>Solid</td>
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<tr>
<td>Colour</td>
<td>White.</td>
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<tr>
<td>Odour</td>
<td>Odourless.</td>
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<tr>
<td>Solubility</td>
<td>Soluble in water.</td>
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<tr>
<td>Initial boiling point and boiling range (°C)</td>
<td>1388 °C at 760 mmHg</td>
</tr>
</tbody>
</table>
Sodium hydroxide

Melting point (°C)  323
Relative density  2.13 @ 20°C
Vapour pressure  1 Pa @ 513°C
pH-Value, Diluted Solution  >13 @ 420g/L
Flash point (°C)  Not applicable.
Partition Coefficient  (N-Octanol/Water)  Not relevant

9.2. Other information

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity
The solution is strongly alkaline and reacts with strong acids with heat generation.

10.2. Chemical stability
Stable under normal conditions of storage and use. See section 7.
Known dangerous reactions
Avoid unintended contact with strong acids. May react violently with oxidising substances.

10.3. Possibility of hazardous reactions
Not determined.
Hazardous Polymerisation
Will not polymerise.

10.4. Conditions to avoid
Water, moisture, acids and heating.

10.5. Incompatible materials
Materials To Avoid
Acids Oxidising agents. Aluminium.

10.6. Hazardous decomposition products
No hazardous decomposition products.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity:
Acute Toxicity (Oral LD50)
Data lacking.
Ignored due to low Klimisch scoring of the test methodology.

Acute Toxicity (Dermal LD50)
1350 mg/kg Rabbit
Ignored due to low Klimisch scoring of the test methodology.

Acute Toxicity (Inhalation LC50)
Data lacking.
Ignored due to low Klimisch scoring of the test methodology.

Respiratory or skin sensitisation:
Skin sensitisation
Scientifically unjustified.

Germ cell mutagenicity:
Genotoxicity - In Vitro
Bacterial Reverse Mutation Test
Sodium hydroxide

Negative.
Genotoxicity - In Vivo
Chromosome aberration:
Negative.

General information
Corrosive to all living tissue. Danger of very serious irreversible effects if swallowed - for symptoms see section 4.

Inhalation
Dust may irritate respiratory system or lungs.

Ingestion
May cause severe internal injury.

Skin contact
Brief contact may cause severe irritation. Prolonged contact may cause severe burns.

Eye contact
Risk of serious damage to eyes.

Target Organs
Skin  Respiratory system, lungs

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity
The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

12.1. Toxicity
Acute Fish Toxicity
Discharge of large quantities may kill fish and other aquatic life due to excessive changes in pH.
Acute Toxicity - Fish
Scientifically unjustified.
Ignored due to low Klimisch scoring of the test methodology.
Acute Toxicity - Aquatic Invertebrates
EC50 48 hours 40.4 mg/l Lake water flea (Ceriodaphnia dubia)
Acute Toxicity - Aquatic Plants
Scientifically unjustified.
Acute Toxicity - Microorganisms
Scientifically unjustified.

12.2. Persistence and degradability
Degradability
The product solely consists of inorganic compounds which are not biodegradable.

12.3. Bioaccumulative potential
Bioaccumulative potential
The product does not contain any substances expected to be bioaccumulating.
Partition coefficient
Not relevant

12.4. Mobility in soil
Mobility:
The product is water soluble and may spread in water systems.

12.5. Results of PBT and vPvB assessment
This product does not contain any PBT or vPvB substances.

12.6. Other adverse effects
High concentrations may affect water treatment processes.
Sodium hydroxide

**SECTION 13: DISPOSAL CONSIDERATIONS**

General information
Empty unlaundered containers must be treated in the same manner as when full; labels should not be removed.

### 13.1. Waste treatment methods

Product is classified as hazardous waste. Disposal of waste material and empty containers must be by means of a licensed waste contractor.

**SECTION 14: TRANSPORT INFORMATION**

#### 14.1. UN number

<table>
<thead>
<tr>
<th>UN No. (ADR/RID/ADN)</th>
<th>1823</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN No. (IMDG)</td>
<td>1823</td>
</tr>
<tr>
<td>UN No. (ICAO)</td>
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</tbody>
</table>

#### 14.2. UN proper shipping name

Proper Shipping Name: SODIUM HYDROXIDE, SOLID

#### 14.3. Transport hazard class(es)

<table>
<thead>
<tr>
<th>ADR/RID/ADN Class</th>
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<tbody>
<tr>
<td>ADR/RID/ADN Class</td>
<td>Class 8: Corrosive substances.</td>
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<tr>
<td>ADR Label No.</td>
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<tr>
<td>IMDG Class</td>
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<tr>
<td>ICAO Class/Division</td>
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</table>

**Transport Labels**

- ![CORROSIVE](CORROSIVE.png)

#### 14.4. Packing group

<table>
<thead>
<tr>
<th>ADR/RID/ADN Packing group</th>
<th>II</th>
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<tbody>
<tr>
<td>IMDG Packing group</td>
<td>II</td>
</tr>
<tr>
<td>ICAO Packing group</td>
<td>II</td>
</tr>
</tbody>
</table>

#### 14.5. Environmental hazards

Environmentally Hazardous Substance/Marine Pollutant No.

#### 14.6. Special precautions for user

EMS: F-A, S-B

Emergency Action Code: 2W

Hazard No. (ADR): 80

Tunnel Restriction Code: (E)

#### 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.
SECTION 15: REGULATORY INFORMATION

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

Statutory Instruments
- Control of Substances Hazardous to Health Regulations (as amended). (COSHH)
- Approved Code Of Practice
- Guidance Notes
  - CHIP for everyone HSG(108).
  - Workplace Exposure Limits EH40.
  - Introduction to Local Exhaust Ventilation HS(G)37.
- EU Legislation
  - ADR (L’Accord européen relative au transport international des marchandises dangereuses par route.)

15.2. Chemical Safety Assessment

No chemical safety assessment has been carried out.

SECTION 16: OTHER INFORMATION

Revision Date 06-MAR-14
Revision 07
Supersedes date 25-SEP-10
Risk Phrases In Full
  - R35 Causes severe burns.
Hazard Statements In Full
  - H318 Causes serious eye damage.
  - H314 Causes severe skin burns and eye damage.
  - H290 May be corrosive to metals.

Disclaimer

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.