

## SAFETY DATA SHEET

### SODIUM HYDROXIDE 32% W/W

According to Regulation (EC) No 1907/2006, Annex II

#### SECTION 1: Identification of the substance/mixture and of the company/undertaking

##### 1.1. Product identifier

<b>Product name</b>	SODIUM HYDROXIDE 32% W/W
<b>Product number</b>	1351
<b>REACH registration number</b>	Not applicable
<b>REACH registration notes</b>	Product is a mixture

##### 1.2. Relevant identified uses of the substance or mixture and uses advised against

<b>Identified uses</b>	Laboratory reagent.
<b>Uses advised against</b>	Processes involving incompatible materials. Processes that would lead to over-exposure of the operators.

##### 1.3. Details of the supplier of the safety data sheet

###### Supplier

Reagent Chemical Services  
 18 Aston Fields Road  
 Whitehouse Industrial Estate  
 Runcorn  
 Cheshire WA7 3DL

T: 01928 716903 (08.30 - 17.00)  
 F: 01928 716425  
 E: [info@reagent.co.uk](mailto:info@reagent.co.uk)

##### 1.4. Emergency telephone number

<b>Emergency telephone</b>	OHES Environmental Ltd 24-7 Tel. 0333 333 9939 (24 hour)
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#### SECTION 2: Hazards identification

##### 2.1. Classification of the substance or mixture

###### Classification (EC 1272/2008)

<b>Physical hazards</b>	Met. Corr. 1 - H290
<b>Health hazards</b>	Skin Corr. 1A - H314 Eye Dam. 1 - H318
<b>Environmental hazards</b>	Not Classified

**Classification (67/548/EEC or 1999/45/EC)** C;R35.

###### Human health

Will cause severe burns. The product will cause serious burns to eyes which can result in blindness. Ingestion will cause burns to the mouth, stomach and gastrointestinal tract. Irritation of the respiratory system. High concentrations of vapours or prolonged exposure may lead to burns of the respiratory tract. Inhalation of vapour or mist may cause lung oedema.

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**Environmental** Due to the alkalinity of the product it may produce a local pH change in water systems which can have a damaging effect on aquatic organisms. Discharge to soil may produce a local pH change which can have a damaging effect on crops and soil dwelling organisms.

**Physicochemical** Strongly alkaline solution. Very corrosive to skin and eyes. Will corrode metal surfaces on sustained or repeated contact. May produce an exothermic reaction with acids.

### 2.2. Label elements

#### Pictogram



**Signal word** Danger

**Hazard statements** H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.

**Precautionary statements** P260 Do not breathe vapour/ spray.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
P305+P351+P338 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/ doctor.  
P501 Dispose of contents/ container in accordance with national regulations.

**Contains** SODIUM HYDROXIDE

**Supplementary precautionary statements** P234 Keep only in original container.  
P264 Wash contaminated skin thoroughly after handling.  
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P321 Specific treatment (see medical advice on this label).  
P363 Wash contaminated clothing before reuse.  
P390 Absorb spillage to prevent material damage.  
P405 Store locked up.  
P406 Store in corrosive resistant container with a resistant inner liner.

### 2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

<b>SODIUM HYDROXIDE</b>	<b>30-60%</b>
CAS number: 1310-73-2	EC number: 215-185-5
	REACH registration number: 01-2119457892-27-0000
<b>Classification</b>	<b>Classification (67/548/EEC or 1999/45/EC)</b>
Skin Corr. 1A - H314	C;R35
Eye Dam. 1 - H318	

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

**Composition comments** An aqueous sodium hydroxide mixture.

## SODIUM HYDROXIDE 32% W/W

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

<b>General information</b>	CAUTION! First aid personnel must be aware of own risk during rescue! First aid personnel must protect themselves with all necessary personal protective equipment during the assistance of casualties. Always consider any dangers in the vicinity before approaching to treat the casualty. When breathing is difficult, properly trained personnel may assist the casualty by administering oxygen. Check airway for any blockages. If breathing has stopped perform CPR. Place unconscious person on the side in the recovery position and ensure breathing can take place. Never give anything by mouth to an unconscious person. If medical assistance is needed take as much detail as possible about the incident and hazardous materials involved with the casualty.
<b>Inhalation</b>	Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. In case of severe exposure or if casualty feels unwell, obtain medical attention.
<b>Ingestion</b>	Do not induce vomiting. Rinse mouth thoroughly with water Get medical attention immediately.
<b>Skin contact</b>	Remove contaminated clothing and wash before re - use. Wash the skin with copious amounts of water. If clothing is difficult to remove or stuck to the skin then leave in place and flush affected area with water. Get medical attention immediately.
<b>Eye contact</b>	May cause permanent damage if eye is not immediately irrigated. Promptly wash eyes with plenty of water or eye wash solution while lifting the eyelids. If possible remove any contact lenses and continue to wash. Get medical attention immediately. Continue to rinse.

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

<b>General information</b>	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
<b>Inhalation</b>	Acute: Coughing. Irritation of the respiratory system. Delayed: Can cause pulmonary edemas. Prolonged exposure to vapours or mists can cause damage to the mucous membranes of the respiratory system. Burns to the respiratory system may occur after exposure to high concentrations of vapours or mists.
<b>Ingestion</b>	Acute: Burns in the mouth, throat, stomach and gastrointestinal tract. Risk of perforation. Delayed: Scarring of the digestive system with possible blockages due to internal damage. Coma and death can occur following severe exposure.
<b>Skin contact</b>	Acute: Chemical burns. Delayed: Scarring of the skin.
<b>Eye contact</b>	Acute: Severe burns. Delayed: Permanent eye damage. Possible blindness.

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

<b>Notes for the doctor</b>	Have eye wash facilities in place close to the operators' work area to provide immediate first aid prior to medical attention. All cases of exposure require immediate medical attention.
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### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

<b>Suitable extinguishing media</b>	The product is non-combustible. Use fire-extinguishing media suitable for the surrounding fire. Small fires: Foam, carbon dioxide or dry powder. Large fires: Dry powder, foam or water spray/mist.
<b>Unsuitable extinguishing media</b>	Do not use water jet as this can spread the fire. Do not use carbon dioxide in enclosed spaces with insufficient ventilation.

#### 5.2. Special hazards arising from the substance or mixture

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**Specific hazards** Corrosive liquid. Sodium hydroxide mists or vapours will be formed. Contact with metals may form hydrogen gas which is flammable and can result in explosion. Containers of flammable liquids in the area of the fire can explode upon heating.

**Hazardous combustion products** The product is not combustible but may decompose in the event of a fire. Thermal decomposition or combustion products may include the following substances: Corrosive gases or vapours. Sodium hydroxide. When the water component has evaporated there is a possibility that sodium oxides may be formed during fire.

### 5.3. Advice for firefighters

**Protective actions during firefighting** Prevent run-off from entering drains and watercourses. Be aware of dangers from other hazardous substances in the immediate area. Use water spray to cool unopened containers. Evacuate and keep non-emergency personnel away from the fire area until it is properly extinguished with no danger of re-ignition.

**Special protective equipment for firefighters** Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

**Personal precautions** Wear protective clothing as described in Section 8 of this safety data sheet. Avoid ingestion, inhalation of vapours and contact with skin and eyes. Have emergency procedures in place for treating spillages, evacuating the area and informing the emergency services if necessary. Restrict access to the area until the spillage is treated, if large amounts of vapours are produced that will be hazardous to others, evacuate the area. When any other effects of spillages will affect the safety of others the area should be evacuated.

### 6.2. Environmental precautions

**Environmental precautions** Avoid unauthorised discharge to the environment. Do not discharge into drains or watercourses or onto the ground. Large spillages or uncontrolled discharge to water systems must be alerted to the Environmental Agency or other regulatory body. If spillages to land cannot be treated safely or if contamination will occur the Environment Agency must be alerted immediately. If the substance has entered a foul drain or sewage system in significant quantity to cause a hazard the local Water Treatment Company must be informed. Clean up any spillages immediately, prevent material from spreading and entering drains or sewage systems.

### 6.3. Methods and material for containment and cleaning up

**Methods for cleaning up** Any chemical absorbents used must be compatible with the components of the mixture. Small Spillages: Absorb spillage with sand or other inert absorbent. Large Spillages: Dam and absorb spillages with sand, earth or other inert material. Fit drain covers where they are available if the spillage is likely to enter the drainage system. Collect and place in suitable waste disposal containers and seal securely. For waste disposal, see Section 13. Containers with collected spillage must be properly labelled with correct contents and hazard symbol. Flush contaminated area with plenty of water. Take care as floors and other surfaces may become slippery. Ventilate area and allow to dry before allowing access.

### 6.4. Reference to other sections

**Reference to other sections** Refer to sections 8 and 13 for additional information.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

## SODIUM HYDROXIDE 32% W/W

**Usage precautions** Avoid spilling. Avoid contact with skin and eyes. Avoid inhalation of vapours and spray/mists. Avoid ingestion of the product. Do not eat, drink or smoke when handling. Ensure emergency procedures are in place to treat spillages and cope with other situations such as evacuation. Do not use in areas close to drainage systems unless measures are in place to prevent access of product. Wash at the end of each work shift, before eating, drinking, smoking and using the toilet. Remove contaminated clothing/footwear/equipment before entering eating areas or other places that would expose others to the substance. Do not mix with incompatible substances or mixtures. Do not dispose of the substance to the environment through unauthorised means. Do not discharge to land or water including the drainage system.

### 7.2. Conditions for safe storage, including any incompatibilities

**Storage precautions** Store in closed original container at temperatures between 15°C and 25°C. Store away from heat, direct sunlight and moisture. Store away from incompatible materials. It is advisable to store in a bunded area or use other protective measures such as a sump pallet or storage tray. Store in a stable situation to avoid spillages. Avoid freezing conditions. If the mixture is transferred to another container then this should be made of a compatible material. Consult with the packaging manufacturer about suitability. Do not store in containers made of aluminium or other light metals.

**Storage class** Corrosive storage.

### 7.3. Specific end use(s)

**Specific end use(s)** The identified uses for this product are detailed in Section 1.2.

**Usage description** Use product under conditions described in this datasheet. Avoid exposure of operators and others who may be affected by its use. Avoid overuse of the product which would create waste and potential spillages. Always use recommended personal protective equipment. Only use the product for its intended use in a safe manner, do not use for other purposes.

## SECTION 8: Exposure Controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limits

#### SODIUM HYDROXIDE

Short-term exposure limit (15-minute): WEL 2 mg/m<sup>3</sup>

WEL = Workplace Exposure Limit

**Biological limit values** No information available, No information available, No information available No information has been received from the manufacturers of the substance.

**DNEL** Industry - Inhalation; Long term local effects: 1 mg/m<sup>3</sup>  
Refers to sodium hydroxide as a substance.  
Consumer - Inhalation; Long term local effects: 1 mg/m<sup>3</sup>

**PNEC** No information available for PNEC of constituents.

#### SODIUM HYDROXIDE (CAS: 1310-73-2)

**DNEL** Workers - Inhalation; Long term local effects: 1 mg/m<sup>3</sup>  
General population - Inhalation; Long term local effects: 1 mg/m<sup>3</sup>

### 8.2. Exposure controls

**Appropriate engineering controls** Provide adequate general and local exhaust ventilation. If vapours or mists are generated, work in a fume cupboard.

**Eye/face protection** Wear approved chemical safety goggles conforming to EN 166.

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<b>Hand protection</b>	Use full length gloves. Polyvinyl chloride (PVC). Viton rubber (fluoro rubber). Butyl rubber. Nitrile rubber. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. For gloves involving total immersion 1.0mm thickness (if available) are recommended, at least 0.5mm and breakthrough time of >480 minutes. For splash resistance use minimum 0.5mm thickness and breakthrough time > 240 minutes. Gloves should have a breakthrough time sufficient for the amount of handling but allow dexterity for safe movement and handling. Gloves should conform to EN 374 (Chemical and Micro-organisms hazards). It should be noted that liquid may penetrate the gloves. Frequent changes are recommended. When removing used gloves apply proper technique by avoiding skin contact with the outer surface. When packages of the product are being handled during storage or transport it is advisable to wear protective gloves to prevent damage to the skin.
<b>Other skin and body protection</b>	Wear suitable protective clothing during transport, handling and storage operations connected with the product. Protective clothing should conform to the general requirements of EN 340:2003. Also consider EN 13034:2005; EN 14605:2005; EN 943:2002 dependent upon the situation resulting in exposure. Wear suitable protective footwear during handling of the product. When treating spillages it is recommended to wear protective boots, consult with the supplier as to the compatibility. Safety footwear should conform to standards EN 344 - 347. Wear plastic apron and full length gloves if handling large amounts. If there is a risk of splashing then wear a face shield. Have facilities in place to wash eyes in case of contact. If handling large amounts it is recommended to have a safety shower.
<b>Hygiene measures</b>	If clothing becomes contaminated with large amounts or would otherwise result in exposure to the mixture, remove and wash before re-use. Do not eat, drink or smoke in the work area. Wash at the end of each work shift and before eating, smoking and using the toilet.
<b>Respiratory protection</b>	Wear suitable respiratory protection when vapours or mists are generated and there is inadequate ventilation or extraction. When the concentration of atmospheric vapours is sufficient to cause skin irritation it is advisable to wear full face respiratory protection. Use respirator fitted with cartridge suitable for inorganic vapours including the substance of concern, type B is recommended. When a particulate respirator is used it is recommended to use at least Type P2, preferably P3. Consult with the supplier as to the compatibility of the equipment with the chemical of concern. CAUTION: Air purifying respirators do not protect the user in oxygen deficient atmospheres, use air supplied system. Respiratory protection should conform to the following standards. BS EN 136: Full face masks. BS EN 140: Half-face masks. BS EN 143: Particulates. Powered air respirators should meet requirements of EN146 and EN12941. Airline fed respirators should meet the requirements of EN 270 and EN1835. Respiratory protection should be maintained in a proper condition and inspected at the frequency specified by current legislation.
<b>Environmental exposure controls</b>	See section 6 for details.

### SECTION 9: Physical and Chemical Properties

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

<b>Appearance</b>	Liquid.
<b>Colour</b>	Colourless.
<b>Odour</b>	Odourless.
<b>Odour threshold</b>	Not applicable. Not applicable.
<b>pH</b>	pH (concentrated solution): 14
<b>Flash point</b>	Not relevant.
<b>Evaporation rate</b>	Not determined.

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<b>Evaporation factor</b>	Not determined.
<b>Flammability (solid, gas)</b>	No.
<b>Upper/lower flammability or explosive limits</b>	Not relevant. The mixture is non-flammable. The mixture is non-flammable.
<b>Vapour pressure</b>	Not determined.
<b>Vapour density</b>	Not determined.
<b>Relative density</b>	1.35 @ 20 @ °C
<b>Bulk density</b>	Not applicable. Only applicable to solids.
<b>Solubility(ies)</b>	Not applicable. Miscible with water. The product is completely miscible with water.
<b>Partition coefficient</b>	Not determined.
<b>Auto-ignition temperature</b>	Not relevant.
<b>Decomposition Temperature</b>	Not determined.
<b>Viscosity</b>	Not determined.
<b>Explosive properties</b>	The mixture itself is not explosive but can produce hydrogen gas on reaction with metals which is explosive. More sensitive to shock than m-dinitrobenzene: No. More sensitive to friction than m-dinitrobenzene: No.
<b>Explosive under the influence of a flame</b>	No
<b>Oxidising properties</b>	Not applicable.
<b>9.2. Other information</b>	
<b>Other information</b>	Not available. Not determined.

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

**Reactivity** Exothermic and possible violent reaction with concentrated acids and organic halogen compounds. Possible exothermic reaction with dilute acid solutions. Flammable hydrogen gas is produced on reaction with light metals. Aluminium Zinc Tin and tin oxides.

#### 10.2. Chemical stability

**Stability** Air sensitive. Will form carbonates on reaction with atmospheric carbon dioxide. Stable when stored in sealed container at normal temperatures and in a suitable location.

#### 10.3. Possibility of hazardous reactions

**Possibility of hazardous reactions** Hazardous reactions as specified in section 10.1. Heat and gaseous products may be formed that would build up pressure in a sealed container, do not mix with incompatible materials. Will not polymerise.

#### 10.4. Conditions to avoid

**Conditions to avoid** Avoid heat, direct sunlight and moisture. Avoid contact with acids. Avoid storage in freezing conditions. Avoid storage with incompatible materials. Avoid exposure to the atmosphere, product is air sensitive. Avoid storage in an unstable manner or in a situation that would result in exposure to the product. Avoid storage near to unprotected drainage systems. It is advisable to store the product within some form of containment to prevent spillages reaching drainage systems.

#### 10.5. Incompatible materials

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**Materials to avoid** Aluminium, zinc, tin (formation of hydrogen). Acids. Halogenated organic compounds  
Incompatible packaging materials, the mixture will attack some metals and plastics. Consult with the supplier as to suitability.

### 10.6. Hazardous decomposition products

**Hazardous decomposition products** Does not decompose when used and stored as recommended. See section 5 for hazardous combustion products.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

**Toxicological effects** The mixture has not been tested for toxicological properties. Information on toxicological properties has not been received from the manufacturer or supplier.

#### Acute toxicity - oral

**Notes (oral LD<sub>50</sub>)** No information available. No reliable information.

#### Acute toxicity - dermal

**Notes (dermal LD<sub>50</sub>)** No information available. No reliable information.

#### Acute toxicity - inhalation

**Notes (inhalation LC<sub>50</sub>)** No information available. No reliable information.

#### Skin corrosion/irritation

**Animal data** Dose: 0.5ml of 5% w/v solution, 2 hr, Rabbit Primary dermal irritation index: 4.33 after 1 hour to 3.1 after 7 days. Erythema/eschar score: 2.6 at 24 hours Oedema score: 1.5 at 24 hours  
Tests on rabbits for up to 8 days showed the solution to be irritating. At or above 5% w/w sodium hydroxide is classed as corrosive to skin causing severe burns. OECD Guideline 404 (Acute Dermal Irritation / Corrosion) Corrosive to skin.

#### Serious eye damage/irritation

**Serious eye damage/irritation** Below 2%w/w solutions are irritating. At or above 2% w/w they are corrosive. Tests on rabbits, OECD Guideline 405, Acute eye Irritation / Corrosion.

#### Skin sensitisation

**Skin sensitisation** Patch test - Human: Industry - Dermal; Long term systemic effects 22 mg/kg/day Not sensitising.

#### Germ cell mutagenicity

**Genotoxicity - in vitro** Gene mutation:: Negative. No reliable information. Despite information being unreliable the results from all tests were negative for genotoxicity.

#### Genotoxicity - in vivo

Chromosome aberration: Negative. Result obtained for micronucleus assay on mouse showed negative results. Chromosome aberration on grasshoppers showed some positive results. Information is unreliable but the majority of test results are negative.

#### Carcinogenicity

**Carcinogenicity** Scientifically unjustified.

#### Reproductive toxicity

**Reproductive toxicity - fertility** No information available. No supplied or registered information.

#### Reproductive toxicity - development

Fetotoxicity: - Dose level:: 2 microlitre doses of 0.001M NaOH Industry - Dermal; Long term systemic effects 22 mg/kg/day, , Mouse Unreliable information. 2 microlitre doses of 0.001 M sodium hydroxide produced mortality in approx. 46% of fetuses.

#### Specific target organ toxicity - single exposure

**STOT - single exposure** No information available.



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### Specific target organ toxicity - repeated exposure

**STOT - repeated exposure** No information available. Unreliable information.

<b>Inhalation</b>	Irritation of the respiratory system. Coughing and difficulties in breathing. Headache. Burns to mucous membranes. May cause pulmonary edema, bronchitis or pneumonitis.
<b>Ingestion</b>	Chemical burns to the mouth, oesophagus and stomach. Stomach pain and vomiting. May cause severe internal injury.
<b>Skin contact</b>	Causes severe burns. Delayed effects may be scarring of the skin.
<b>Eye contact</b>	This product is strongly corrosive. Causes severe burns. Immediate first aid is imperative. Risk of serious damage to eyes. Lacrimation. Delayed effects can be conjunctivitis, cataracts and glaucoma. Possible blindness.

### SECTION 12: Ecological Information

**Ecotoxicity** Although not classified as environmentally hazardous, harmful effects cannot be excluded in the event of improper handling or disposal. There is a possibility that the mixture could produce a local alkaline pH shift in the aquatic environment. Do not allow to enter drinking water, waste water or soil.

#### 12.1. Toxicity

<b>Toxicity</b>	The acute effects on fish are the damaging effect on fins due the increase in alkalinity. As pH increases above 9 the mortality rate increases. Outside the range of pH6.5 to 9.0 freshwater fish suffer adverse physiological effects increasing in severity until lethality is reached. Marine life suffers outside pH 6.5 to 8.5 due to the larger buffering capacity of salt water producing a more stable pH and a reduced tolerance to pH change.
<b>Acute toxicity - fish</b>	Industry - Dermal; Long term systemic effects 22 mg/kg/day LC50, 96 hours: < 180 mg/l, Cyprinus carpio (Common carp) This was a study on mortality. Unreliable information.
<b>Acute toxicity - aquatic invertebrates</b>	EC <sub>50</sub> , 48 hours: 40.4 mg/l, Industry - Dermal; Long term systemic effects 22 mg/kg/day Species: Ceriodaphnia sp. Immobility
<b>Acute toxicity - aquatic plants</b>	Scientifically unjustified.
<b>Acute toxicity - microorganisms</b>	Not available. Unreliable information.
<b>Acute toxicity - terrestrial</b>	Not available. No supplied or registered information
<b>Chronic toxicity - fish early life stage</b>	Not available. The registered information is unreliable. Semi-static, freshwater tests on guppies showed adverse effects on survival rate and growth. 25 to 100 mg/l produced significant changes in the biology of the fish.
<b>Short term toxicity - embryo and sac fry stages</b>	Not available.
<b>Chronic toxicity - aquatic invertebrates</b>	Scientifically unjustified.
<b>Toxicity to soil</b>	No registered or supplied information.
<b>Toxicity to terrestrial plants</b>	No registered or supplied information.

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### 12.2. Persistence and degradability

<b>Phototransformation</b>	Not relevant. Water - Industry - Dermal; Long term systemic effects 22 mg/kg/day :
<b>Stability (hydrolysis)</b>	Scientifically unjustified. When dissolved in water, sodium hydroxide dissociates to form hydroxide ions. This dissociation is reduced as the pH increases.
<b>Biodegradation</b>	Scientifically unjustified.
<b>Biological oxygen demand</b>	No information available. No supplied or registered information
<b>Chemical oxygen demand</b>	No information available. No supplied or registered information

### 12.3. Bioaccumulative potential

<b>Bioaccumulative potential</b>	Scientifically unjustified. Due to its high water solubility, sodium hydroxide is not expected to bioaccumulate. It is an inorganic compound.
<b>Partition coefficient</b>	Not determined.

### 12.4. Mobility in soil

<b>Mobility</b>	Sodium hydroxide is present in the environment as sodium and hydroxyl ions. The product is miscible with water and will spread in water systems. It will be absorbed into soil with the possibility of travelling into groundwater when large or continuous discharges occur. Sodium hydroxide solutions will penetrate further into the soil as dilution increases. Some ion exchange will occur, sodium will become part of the naturally occurring sodium in the environment. There is the possibility that some hydroxide will remain in solution and travel towards groundwater.
<b>Adsorption/desorption coefficient</b>	Scientifically unjustified.
<b>Henry's law constant</b>	Not available. No supplied or registered information
<b>Surface tension</b>	Not available. No supplied or registered information

### 12.5. Results of PBT and vPvB assessment

<b>Results of PBT and vPvB assessment</b>	This product does not contain any substances classified as PBT or vPvB.
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### 12.6. Other adverse effects

<b>Other adverse effects</b>	May create a local pH change in soil which can have a damaging effect on crops. Discharge into a foul drain can be a hazard to operators working on the system. Will affect drinking water supplies.
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## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

<b>General information</b>	Any waste material is classed as hazardous waste, it should only be disposed of through licenced waste handlers and treatment sites. Do not allow unauthorised disposal to the environment. If operators are exposed to vapours during the disposal process then suitable respiratory protection should be worn. All other personal protective equipment as described in section 8 should be worn.
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### Disposal methods

Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Avoid unauthorised disposal. Do not dump illegally onto land or into water. Uncleaned empty containers should be treated as hazardous waste. Waste material should not be disposed of directly to drain. Neutralisation is recommended before disposal, this should be carried out by a reputable waste disposal company. IF WASTE IS NEUTRALISED ON SITE BE AWARE THAT A VIGOROUS AND EXOTHERMIC REACTION MAY OCCUR. When dealing with waste always consider the waste management hierarchy of Prevention, Preparation for re-use, Recycling, Recovery and Disposal. It is advisable to minimise waste at source if possible, then re-use, recover or recycle wherever possible before considering waste disposal options.

### SECTION 14: Transport information

#### 14.1. UN number

UN No. (ADR/RID)	1824
UN No. (IMDG)	1824
UN No. (ICAO)	1824

#### 14.2. UN proper shipping name

Proper shipping name (ADR/RID)	SODIUM HYDROXIDE SOLUTION
Proper shipping name (IMDG)	SODIUM HYDROXIDE SOLUTION
Proper shipping name (ICAO)	SODIUM HYDROXIDE SOLUTION
Proper shipping name (ADN)	SODIUM HYDROXIDE SOLUTION

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

ADR/RID class	8
ADR/RID label	8
IMDG class	8
ICAO class/division	8

#### Transport labels



#### 14.4. Packing group

ADR/RID packing group	II
IMDG packing group	II
ICAO packing group	II

#### 14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant  
No.

#### 14.6. Special precautions for user

EmS	F-A, S-B
Emergency Action Code	2R

## SODIUM HYDROXIDE 32% W/W

**Hazard Identification Number** 80  
(ADR/RID)

**Tunnel restriction code** (E)

### 14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not applicable.

## SECTION 15: Regulatory information

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

<b>National regulations</b>	The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No. 716). Control of Substances Hazardous to Health Regulations 2002 (as amended).
<b>EU legislation</b>	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). Regulation (EU) 453/2010.
<b>Guidance</b>	Workplace Exposure Limits EH40. Approved Classification and Labelling Guide (CHIP 4) ECHA Guidance on the Compilation of Safety Data Sheets, September 2011.

### 15.2. Chemical safety assessment

A chemical safety assessment has not been carried out on the mixture. Information from the manufacturer of the raw material has not been received regarding Chemical Safety Assessments, Exposure Scenarios or a Chemical Safety Report.

## SECTION 16: Other information

<b>General information</b>	Under REACH Material Safety Datasheets (MSDS) are referred to as Safety Datasheets (SDS). This datasheet is not intended to be a replacement for a full risk assessment, these should always be carried out by competent persons.
<b>Key literature references and sources for data</b>	Raw material safety data sheets. ECHA website.
<b>Revision comments</b>	General rewrite
<b>Revision date</b>	29/04/2016
<b>Revision</b>	4
<b>Supersedes date</b>	29/04/2016
<b>SDS number</b>	10132
<b>Risk phrases in full</b>	R35 Causes severe burns.
<b>Hazard statements in full</b>	H290 May be corrosive to metals. H314 Causes severe skin burns and eye damage. H318 Causes serious eye damage.