1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

1.1. Product identifier

Chemical type: Substance
Name: Sodium Hydroxide 32% in aqueous solution
Trade name: caustic soda
EC index no: 011-002-00-6
EC no: 215-185-5
CAS No.: 1310-73-2
REACH registration No.: 01-2119457892-27
IUPAC: Sodium Hydroxide, solution
Chemical name: Sodium Hydroxide, solution
Formula: NaOH
Synonyms: caustic soda 32% W/W, aqueous solution
caucistic soda, conc=32%, aqueous solution
caucistic, conc=32%, aqueous solution
liquid caustic, conc=32%, aqueous solution
lye, conc=32%, aqueous solution
soda lye, conc=32%, aqueous solution
sodium hydrate lye, conc=32%, aqueous solution
sodium hydrate, conc=32%, aqueous solution
sodium hydroxide, conc=32%, aqueous solution
sodium lye, conc=32%, aqueous solution
white caustic, conc=32%, aqueous solution

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

1.2.1. Relevant identified uses
Industrial/Professional use spec: Wide dispersive use
Function or use category: Adhesives, binding agents, Absorbents and adsorbents, Anti-freezing agents, Pesticides, non-agricultural (Biocides), Fillers, Explosives, Fertilisers, Fuels, Heat transferring agents, Hydraulic fluids and additives, pH-regulating agents, Laboratory chemicals, Intermediates, Lubricants and additives, Pharmaceuticals, Photo chemicals, Semiconductors, Cleaning/washing agents and additives, Welding and soldering agents, Cosmetics

1.2.2. Uses advised against [cont..]
1.3. Details of the supplier of the safety data sheet

Company name: Nexchem Ltd
Unit 1 Underwood Court
Elm Tree Avenue
Glenfield
Leicester
Leicestershire
LE3 8SG
Tel: 0116 2311130
Fax: 0116 2311124
Emergency Tel: +44 (0) 116 2877916 or +44 (0) 7714 303742 (24 Hours)
Email: sales@nexchem.co.uk

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

2.1.1. Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin Corr. 1A H314
Full text of H-phrases: see section 16.

2.1.2. Classification according to Directive 67/548/EEC or 1999/45/EC

C; R35
Full text of R-phrases: see section 16.

2.1.3. Adverse physicochemical, human health and environmental effects

2.2. Label elements

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

GHS05

CLP Signal word: Danger

Hazard statements (CLP):
H314 - Causes severe skin burns and eye damage

Precautionary statements (CLP):
P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331 - If swallowed: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P363 - Wash contaminated clothing before reuse.
P304+P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P310 - Immediately call a POISON CENTER or doctor/physician.
P321 - Specific treatment (see ... on this label).
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P405 - Store locked up.
P501 - Dispose of contents/container to .... [cont..]
2.2.2. Labelling according to Directive 67/548/EEC or 1999/45/EC

Hazard symbols:

C – Corrosive

R-phrases:
- R35 - Causes severe burns

S-phrases:
- (S1/2) - (Keep locked up and out of reach of children)
- 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 the label where possible)

2.3. Other hazards

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1. Substances

Full text of R-, H- and EUH-phrases: see section 16.

3.2. Mixtures

Not applicable

4. FIRST AID MEASURES (SYMPTOMS)

4.1. Description of first aid measures

First-aid measures general:

First-aid measures after inhalation: Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact: Wash immediately with lots of water (15 minutes)/shower. Do not apply (chemical) neutralizing agents. Remove clothing while washing. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandage. Consult a doctor/medical service. If burned surface > 10%: take victim to hospital.

First-aid measures after eye contact: Rinse immediately with plenty of water for 15 minutes. Do not apply neutralizing agents. Take victim to an ophthalmologist.


[cont..]
4.2. Most important symptoms and effects, both acute and delayed

Symptoms/Injuries:
ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Dry skin. Skin rash/inflammation. Possible inflammation of the respiratory tract.


Symptoms/injuries after skin contact: Caustic burns/corrosion of the skin. Slow-healing wounds.

Symptoms/injuries after eye contact: Corrosion of the eye tissue. Permanent eye damage.


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

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

5.2. Special hazards arising from the substance or mixture

Fire hazard: DIRECT FIRE HAZARD. Non-combustible. INDIRECT FIRE HAZARD. Reactions involving a fire hazard: see "Reactivity Hazard".

Explosion hazard: INDIRECT EXPLOSION HAZARD. Reactions with explosion hazards: see "Reactivity Hazard".


5.3. Advice for fire fighters

No additional information available

6. ACCIDENTAL RELEASE MEASURES

The information in this section is applicable on all mentioned identified uses of this SDS.

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

General measures: Mark the danger area - No naked flames - Prevent soil and water pollution - Prevent spreading in sewers - Wash contaminated clothes - Exposure to fire/heat: keep upwind - Exposure to fire/heat: consider evacuation - Exposure to heat: have neighbourhood close doors and windows - In case of hazardous reactions: keep upwind - In case of reactivity hazard: consider evacuation - Large spills/in confined spaces: consider evacuation.
SAFETY DATA SHEET
Sodium Hydroxide 32% in aqueous solution

Issued: 01/03/2011

Personal protection (Emergency response): Gloves - Face-shield – Corrosion proof suit - Large spills/in enclosed spaces:
Handling the product: compressed air apparatus - Large spills/in enclosed spaces: gas-tight suit - Heat/fire exposure: compressed air/oxygen apparatus - Heat/fire exposure: gas-tight suit - See "Material-Handling" to select protective clothing Comply with the legal requirements - Measure the concentration in the air regularly – Carry operations in the open/under local - exhaust/ventilation or with respiratory protection – Observe very strict hygiene - avoid contact - Remove contaminated clothing immediately – Clean contaminated clothing - Handle and open the container with care - Keep container tightly closed - Keep away from naked flames/heat - Thoroughly clean/dry the installation before use - Do not discharge the waste into the drain.

6.1.2. For emergency responders

6.2. Environmental precautions

Environmental precautions:

6.3. Methods and material for containment and cleaning up

Leak: Contain released substance, pump into suitable containers - Consult "Material-handling" to select material of containers - Plug the leak, cut off the supply - Dam up the liquid spill - Heat exposure: dilute toxic gas/vapour with water spray - Take account of toxic/corrosive precipitation water - Hazardous reaction: measure explosive gas-air mixture - Reaction: dilute combustible gas/vapour with water curtain
Disposal: Take up liquid spill into absorbent material, e.g.: dry sand/earth - or powdered limestone - Scoop absorbed substance into closing containers - See "Material-handling" for suitable container materials - Carefully collect the spill/leftovers - Neutralize small quantities of the liquid spill with acid solution - Wash away neutralized product with plentiful water - Damaged/cooled tanks must be emptied - Take collected spill to manufacturer/competent authority - Clean contaminated surfaces with an excess of water - Wash clothing and equipment after handling

6.4. Reference to other sections

Other information:

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

7.2. Conditions for safe storage, including any incompatibilities

Storage temperature: > 15 °C
Prohibitions on mixed storage: KEEP SUBSTANCE AWAY FROM: heat sources. combustible materials. (strong) acids. metals.
Storage area: Store in a dry area. Keep container in a well-ventilated place. Keep locked up. Protect against frost. Provide for a tub to collect spills. Unauthorized persons are not admitted. Meet the legal requirements.
Special rules on packaging: SPECIAL REQUIREMENTS: hermetical. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packaging’s in solid containers.

7.3. Specific end use(s)

[cont..]
8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

8.2. Exposure controls

Personal protective equipment: Gloves. Face shield. Corrosion proof clothing. Gas mask with filter type B. Self-contained breathing apparatus if conc. in air > 1 VOL%.

Materials for protective clothing:
- GIVE GOOD RESISTANCE: butyl rubber, natural rubber, neoprene, nitrile rubber, polyethylene, PVC, tetrafluoroethylene, viton.
- GIVE LESS RESISTANCE: chlorinated polyethylene, styrenebutadiene rubber, nitrile rubber/PVC.
- GIVE POOR RESISTANCE: PVA, natural fibres.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state: Liquid
Appearance: Liquid
Molecular mass: 40,00
Colour: Colourless
Odour: Odourless
Odour threshold: No data available
pH: 14
pH solution: 32 %
Melting point: 12 °C
Solidification point: No data available
Boiling point: 143 °C
Flash point: No data available

Relate vapour rate comp. to butyl acetate: No data available
Flammability (solid, gas): No data available
Explosive limits: No data available
Vapour pressure: 1,2 hPa
Relative vapour density at 20°C: No data available
Relative density: 1.35
Density: 1350 kg/m³
Solubility: Water: completely
Log Pow: No data available
Self-ignition temperature: No data available
Decomposition temperature: No data available
Viscosity: 0.04 Pa.s (30°C)

9.2. Other information
10. STABILITY AND REACTIVITY

10.1. Reactivity
Absorbs the atmospheric CO$_2$. On heating: release of corrosive gases/vapours. Violent exothermic reaction with (some) acids.
Reacts with (some) metals: release of highly flammable gases/vapours (hydrogen).

10.2. Chemical stability
Stable under normal conditions. Absorbs the atmospheric CO$_2$.

10.3. Possibility of hazardous reactions

10.4. Conditions to avoid

10.5. Incompatible materials

10.6. Hazardous decomposition products

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects
Skin corrosion/irritation: Causes severe skin burns and eye damage.

12. ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - water: Mild water pollutant (surface water)
Ground water pollutant
Maximum concentration in drinking water:
200 mg/l (sodium) (Directive 98/83/EC)
Harmful to fishes
Harmful to invertebrates (Daphnia)
pH shift
According to literature, not bio accumulative
Biodegradability: not applicable
Chemical intermediate
Industrial use
PACKAGING/CONTAINER
caustic soda (1310-73-2)

LC50 fishes 1 45.4 mg/l (96 h, SALMO GAIRDNERI/ ONCORHYNCHUS MYKISSL)
LC50 other aquatic organisms 1 33/100 (48 h, CRANGON CRANGON, PURE SUBSTANCE) mg/l
LC50 other aquatic organisms 2 100 mg/l (48 h, DAPHNIA MAGNA, PURE SUBSTANCE)

12.2. Persistence and degradability
12.3. Bio accumulative potential
12.4. Mobility in soil
12.5. Results of PBT and vPvB assessment
12.6. Other adverse effects

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

14. TRANSPORT INFORMATION

14.1. UN number
UN-No.: 1824

14.2. UN proper shipping name
Proper Shipping Name: Sodium hydroxide solution
Transport document description: UN 1824 Sodium hydroxide solution, 8, II

14.3. Transport hazard class(es)
14.3.1. Overland transport
Class (ADR): 8 - Corrosive substances
Hazard identification number (Kemler No.): 80
Classification code (ADR): C5
Danger labels (ADR): 8 - Corrosive substances

Orange plates
SAFETY DATA SHEET
Sodium Hydroxide 32% in aqueous solution

14.3.2. Transport by sea
EmS-No. (1): F-A
EmS-No. (2): S-B

14.3.3. Air transport
Instruction "cargo" (ICAO): 813
Instruction "passenger" (ICAO): 809
Instruction "passenger" - Limited quantities (ICAO): Y809

14.4. Packing group
Packing group (ADR): II

14.5. Environmental hazards
Other information: No supplementary information available.

14.6. Special precautions for user

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
State during transport (ADR-RID): as liquid.

15. REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
15.1.1. EU-Regulations
15.1.2. National regulations
WGK remark: Classification based on the components in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS)

15.2. Chemical safety assessment
Note: The regulatory information given above only indicates the principal regulations specifically applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

16. OTHER INFORMATION

Full text of R-, H- and EUH-phrases:
Skin Corr. 1A: Skin Corrosion/Irritation Category 1A
H314: Causes severe skin burns and eye damage
R35: Causes severe burns

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

Legal disclaimer: The information contained in this SDS does not constitute a risk assessment, and should not replace the user's own assessment of risks as required by other health and safety legislation. This advice is given by Nexchem Ltd who accept no legal liability for it except otherwise provided by law. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties.