

Safety Data Sheet acc. to OSHA HCS

Printing date 06/19/2015

Reviewed on 06/19/2015

1 Identification

- **Product identifier** Industrial water treatment compound
- **Trade name:** **SODIUM HYDROXIDE 50%**
- **Article number:** COM5A
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
ZEE COMPANY, INC.
4146 South Creek Road
Chattanooga, TN 37406
- **Information department:** Technical Services: 423-698-1401
- **Emergency telephone number:** CHEMTREC: 800-424-9300

2 Hazard(s) identification

- **Classification of the substance or mixture**



Corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



Acute Tox. 4 H302 Harmful if swallowed.

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS05 GHS07

- **Signal word** Danger

- **Hazard-determining components of labeling:**

sodium hydroxide

- **Hazard statements**

Harmful if swallowed.

Causes severe skin burns and eye damage.

- **Precautionary statements**

Do not breathe dusts or mists.

Wear eye protection / face protection.

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

Printing date 06/19/2015

Reviewed on 06/19/2015

Trade name: **SODIUM HYDROXIDE 50%**

(Contd. of page 1)

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

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.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Wash contaminated clothing before reuse.

If swallowed: Rinse mouth. Do NOT induce vomiting.

Wash with plenty of polyethylene-glycol 400.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



Health = 3

Fire = 0

Reactivity = 1

- **HMIS-ratings (scale 0 - 4)**



Health = 3

Fire = 0

Reactivity = 1

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**

- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

1310-73-2	sodium hydroxide	40-60%
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4 First-aid measures

- **Description of first aid measures**

- **General information:** Immediately remove any clothing soiled by the product.

- **After inhalation:**

Remove to fresh air. If symptoms persist consult a doctor.

In case of unconsciousness, immediately seek medical attention.

- **After skin contact:**

Remove contaminated clothing and flush area with running water for a minimum of 15 minutes. If irritation persists consult a doctor.

Immediately wash with water and soap and rinse thoroughly.

- **After eye contact:**

Rinse opened eye for several minutes under running water. Then consult a doctor.

Immediately flush open eye with running water for a minimum of 15 minutes. Immediately get medical attention.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 06/19/2015

Reviewed on 06/19/2015

Trade name: **SODIUM HYDROXIDE 50%**

(Contd. of page 2)

- **After swallowing:**
Immediately contact a doctor or Poison Control Center.
Do not induce vomiting. Rinse mouth out with water, and drink several glasses of water. Never give anything by mouth to an unconscious person.
- **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 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing 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:** No special measures required.

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.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **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

- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
When diluting, always add the product to water (water temperature should be less than 140 degrees F). Never add water to product.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Keep this and all chemicals out of the reach of children.
Store in a cool, dry, well ventilated area.
Protect from freezing.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Shelf life: 2 years in original unopened containers.
Keep receptacle tightly sealed.

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 06/19/2015

Reviewed on 06/19/2015

Trade name: **SODIUM HYDROXIDE 50%**

(Contd. of page 3)

Recommended storage temperature range is from 60 - 95 degrees F.

· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.· **Control parameters**· **Components with limit values that require monitoring at the workplace:**

1310-73-2 sodium hydroxide

PEL	Long-term value: 2 mg/m ³
REL	Ceiling limit value: 2 mg/m ³
TLV	Ceiling limit value: 2 mg/m ³

· **Additional information:** The lists that were valid during the creation were used as basis.· **Exposure controls**· **Personal protective equipment:**· **General protective and hygienic measures:**

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 and skin.

· **Breathing equipment:** Use suitable respiratory protective device in case of insufficient ventilation.· **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

· **Body protection:** Protective work clothing

USA

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 06/19/2015

Reviewed on 06/19/2015

Trade name: SODIUM HYDROXIDE 50%

(Contd. of page 4)

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Liquid
Color:	Colorless
Odor:	Odorless
Odor threshold:	Not determined.

· pH-value at 20 °C (68 °F): >12.5

· Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.

· Flash point: Not applicable.

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature:

Decomposition temperature: Not determined.

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Product does not present an explosion hazard.

· Explosion limits:

Lower:	Not determined.
Upper:	Not determined.

· Vapor pressure at 20 °C (68 °F): 23 hPa (17 mm Hg)

· Density at 20 °C (68 °F): 1.529 g/cm³ (12.76 lbs/gal)

· Relative density: Not determined.

· Vapor density: Not determined.

· Evaporation rate: Not determined.

· Solubility in / Miscibility with

Water: Fully miscible.

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:

Dynamic:	Not determined.
Kinematic:	Not determined.

· Solvent content:

Organic solvents:	0.0 %
Water:	50.0 %

Solids content: 50.0 %

· Other information: No further relevant information available.

10 Stability and reactivity

· Reactivity

· Chemical stability: Stable

(Contd. on page 6)

USA

Safety Data Sheet

acc. to OSHA HCS

Printing date 06/19/2015

Reviewed on 06/19/2015

Trade name: SODIUM HYDROXIDE 50%

(Contd. of page 5)

- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** Strong exothermic reaction with acids.
- **Conditions to avoid** Do not mix with acids.
- **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 that are relevant for classification:**

1310-73-2 sodium hydroxide

Oral LD50 2000 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** Strong caustic effect on skin and mucous membranes.
- **on the eye:** Strong caustic effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful
Corrosive
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:**
Bluegill (*Lepomis macrochirus*), LC50, 48 Hour, 99 mg/L
Mosquitofish (*Gambusia affinis affinis*) LC50, 96 Hour, 125 mg/L
- **Persistence and degradability** No further relevant information available.
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Must not reach bodies of water or drainage ditch undiluted or unneutralized.
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.

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 06/19/2015

Reviewed on 06/19/2015

Trade name: SODIUM HYDROXIDE 50%

(Contd. of page 6)

- **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:** Dispose of in accordance with federal, state, and local regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- **UN-Number**
- **DOT, IMDG, IATA** UN1824
- **UN proper shipping name**
- **DOT, IMDG, IATA** Sodium hydroxide solution

- **Transport hazard class(es)**
- **DOT**



- **Class** 8 Corrosive substances
- **Label** 8
- **Class** 8 Corrosive substances
- **Label** 8

- **IMDG, IATA**



- **Class** 8 Corrosive substances
- **Label** 8

- **Packing group**
- **DOT, IMDG, IATA** II

- **Environmental hazards:**
- **Marine pollutant:** No

- **Special precautions for user** Warning: Corrosive substances
- **Danger code (Kemler):** 80
- **EMS Number:** F-A,S-B
- **Segregation groups** Alkalis

(Contd. on page 8)

USA

Safety Data Sheet

acc. to OSHA HCS

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Reviewed on 06/19/2015

Trade name: SODIUM HYDROXIDE 50%

(Contd. of page 7)

- | | |
|---|---|
| • Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| • Transport/Additional information: | |
| • DOT | |
| • Quantity limitations | On passenger aircraft/rail: 1 L
On cargo aircraft only: 30 L |
| ----- | |
| • IMDG | |
| • 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 |
| • UN "Model Regulation": | UN1824, Sodium hydroxide solution, 8, II |

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

• Section 355 (extremely hazardous substances):

None of the ingredients is listed.

• Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

• TSCA (Toxic Substances Control Act):

All ingredients are listed.

• Proposition 65

• Chemicals known to cause cancer:

None of the ingredients is listed.

• Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

• Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

• Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

• Carcinogenic categories

• EPA (Environmental Protection Agency)

None of the ingredients is listed.

• TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

• NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

• GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

(Contd. on page 9)

USA

Safety Data Sheet

acc. to OSHA HCS

Printing date 06/19/2015

Reviewed on 06/19/2015

Trade name: **SODIUM HYDROXIDE 50%**

(Contd. of page 8)

- **Hazard pictograms**



GHS05 GHS07

- **Signal word** Danger

- **Hazard-determining components of labeling:**

sodium hydroxide

- **Hazard statements**

Harmful if swallowed.

Causes severe skin burns and eye damage.

- **Precautionary statements**

Keep out of reach of children.

Do not breathe dusts or mists.

Wear eye protection / face protection.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

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.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Wash contaminated clothing before reuse.

If swallowed: Rinse mouth. Do NOT induce vomiting.

Wash with plenty of polyethylene-glycol 400.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

- **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.

- **Contact:** Jim Faller/Keith Seyfried

- **Date of preparation / last revision** 06/19/2015 / 19

- **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

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

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)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Acute Tox. 4: Acute toxicity, Hazard Category 4

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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