

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

1.1. Product identifier

Product form : Mixture
 Trade name : CIP Neutralizer™ - Alkaline Based Neutralizer
 Product code : 1D07

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

Use of the substance/mixture : Alkaline based Neutralizer
 Use of the substance/mixture : For industrial and institutional use only. Not for home use.

1.3. Details of the supplier of the safety data sheet

STERIS Corporation
 P. O. Box 147, St. Louis, MO 63166, US
 Telephone Number for Information: 1-800-444-9009 (Customer Service-Scientific Products)
 US Emergency Telephone No.1-314-535-1395 (STERIS); 1-800-424-9300 (CHEMTREC)

1.4. Emergency telephone number

Emergency number : US Emergency Telephone No.1-314-535-1395 (STERIS); 1-800-424-9300 (CHEMTREC)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Skin Corr. 1A H314
 Eye Dam. 1 H318

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :



GHS05

Signal word (GHS-US) : Danger
 Hazard statements (GHS-US) : H314 - Causes severe skin burns and eye damage
 H318 - Causes serious eye damage
 Precautionary statements (GHS-US) : P260 - Do not breathe mist, spray, vapors, dust
 P264 - Wash hands thoroughly after handling
 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): Take off immediately all contaminated clothing. Rinse skin with water/shower
 P304 + P340 – IF INHALED: Remove person to fresh air and keep comfortable for breathing
 P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P363 - Wash contaminated clothing before reuse.

2.3. Other hazards

No additional information available.

2.4. Unknown acute toxicity (GHS-US)

No data available.

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable.

Full text of H-phrases: see Section 16.

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3.2. Mixture

| Name | Product identifier | % | GHS-US classification |
|---------------------|--------------------|---------|--|
| Sodium hydroxide | (CAS No) 1310-73-2 | 10 - 30 | Acute Tox. 4 (Dermal), H312 Skin Corr. 1A, H314 Eye Dam. 1, H318 |
| Potassium hydroxide | (CAS No) 1310-58-3 | 5 - 10 | Acute Tox. 3 (Oral), H301 Skin Corr. 1A, H314 |

SECTION 4: First aid measures

4.1. Description of first aid measures

| | |
|---------------------------------------|--|
| First-aid measures general | : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). |
| First-aid measures after inhalation | : Remove the patient to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. Get medical attention. |
| First-aid measures after skin contact | : Immediately flush skin with plenty of water for at least 15 minutes. Remove/Take off immediately all contaminated clothing. Obtain medical attention. |
| First-aid measures after eye contact | : In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention immediately. |
| First-aid measures after ingestion | : If swallowed, rinse mouth with water (only if the person is conscious). Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting. Give water to drink if victim completely conscious/alert. |

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

| | |
|--------------------------------------|--|
| Symptoms/injuries | : Causes severe skin burns and eye damage. |
| Symptoms/injuries after inhalation | : Inhalation of mists is extremely irritating to mucous membranes and upper respiratory tract. |
| Symptoms/injuries after skin contact | : May cause severe burns. Severe skin irritant. |
| Symptoms/injuries after eye contact | : Corrosive to eyes. Causes serious eye damage. |
| Symptoms/injuries after ingestion | : Swallowing a small quantity of this material will result in serious health hazard. Although ingestion is an unlikely route of entry, ingestion will cause corrosion of the mouth and the upper gastrointestinal tract. Swelling of the tissues in the throat and mouth may result in extreme difficulty in swallowing. Significant swelling may restrict air passages. In all cases of ingestion, the risk of aspiration into the lungs exists. Entry into the lungs can cause permanent damage to the lungs resulting in pulmonary edema. This condition may lead to death. |

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

No additional information available.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.

5.2. Special hazards arising from the substance or mixture

No additional information available.

5.3. Advice for firefighters

| | |
|---------------------------------------|--|
| Firefighting instructions | : Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment. |
| Protective equipment for firefighters | : Use self-contained breathing apparatus. Do not enter fire area without proper protective equipment, including respiratory protection. |
| Other information | : May react with soft metals to evolve flammable hydrogen gas. Hazardous decomposition products may be released during prolonged heating like smokes, carbon monoxide and dioxide. |

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Do not breathe fumes, vapors. Avoid contact with skin, eyes and clothes. Use personal protective equipment as required. Stop leak if safe to do so.

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6.1.1. For non-emergency personnel

- Protective equipment : Wear suitable protective clothing. For further information refer to Section 8: Exposure-controls/personal protection.
- Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Neutralize spill carefully with any weak acid and flush remainder with plenty of water. Consult hazardous waste contractor for disposal of large amounts. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect in closed containers for disposal. Store away from other materials. Wash contaminated areas with large quantities of water to a sanitary sewer, if in accordance with local, state or national legislation. Ensure all national/local regulations are observed.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Product for industrial use only. Read label before use. Avoid contact with skin, eyes and clothing. Avoid breathing mist or vapor. Provide good ventilation in process area to prevent formation of vapor. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.
- Hygiene measures : Wash hands thoroughly after handling. Take care for general good hygiene and housekeeping. Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse. Separate working clothes from town clothes. Launder separately.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : A washing facility/water for eye and skin cleaning purposes should be present. Provide adequate ventilation. Comply with applicable regulations.
- Storage conditions : Keep only in the original container in a cool, well ventilated place. Keep out of reach of children. Keep away from incompatible materials. Keep container closed when not in use.
- Incompatible materials : Acids, soft metals, oxidizers, organic halogen compounds. Contact with some metals such as magnesium, aluminum, zinc (galvanized), tin, chromium, brass and bronze may generate hydrogen. Reacts violently with acids liberating irritating gas. May evolve flammable hydrogen gas on contact with soft metals.

7.3. Specific end use(s)

No additional information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Potassium hydroxide (1310-58-3)

| | | |
|-----------|------------------------------------|---------------------|
| USA ACGIH | ACGIH Ceiling (mg/m ³) | 2 mg/m ³ |
|-----------|------------------------------------|---------------------|

Sodium hydroxide (1310-73-2)

| | | |
|-----------|-------------------------------------|---------------------|
| USA ACGIH | ACGIH Ceiling (mg/m ³) | 2 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 2 mg/m ³ |

8.2. Exposure controls

- Appropriate engineering controls : Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of mists and/or vapors below the recommended exposure limits. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

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Personal protective equipment : Avoid all unnecessary exposure. Personal protective equipment should be selected based upon the conditions under which this product is handled or used. Protective clothing. Gloves. Protective goggles.



Hand protection : Wear rubber gloves.
Eye protection : Wear chemical goggles or safety glasses.
Skin and body protection : Wear suitable protective clothing. Rubber Apron. Rubber boots.
Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment.
Other information : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Appearance : Clear
Color : Colorless
Odor : Characteristic
Odor threshold : No data available
pH (concentrate) : No data available
pH (1% solution) : 12.6 Approximately
Relative evaporation rate (butyl acetate=1) : No data available
Melting point : No data available
Freezing point : No data available
Boiling point : No data available
Flash point : No data available
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Flammability (solid, gas) : No data available
Vapor pressure : No data available
Relative vapor density at 20 °C : No data available
Relative density : No data available
Density : ca. 1.289 g/ml @ 25 °C
Solubility : Water: Completely soluble
Log Pow : No data available
Log Kow : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosive properties : No data available
Oxidizing properties : No data available
Explosive limits : No data available.

9.2. Other information

No additional information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available.

10.2. Chemical stability

Stable under normal conditions of use.

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10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

No additional information available.

10.5. Incompatible materials

Acids, soft metals, oxidizers, organic halogen compounds. Contact with some metals such as magnesium, aluminum, zinc (galvanized), tin, chromium, brass and bronze may generate hydrogen. Reacts violently with acids liberating irritating gas. May evolve flammable hydrogen gas on contact with soft metals.

10.6. Hazardous decomposition products

Thermal decomposition generates: Corrosive vapors. On burning: Release of carbon monoxide - carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified
Based on available data, the classification criteria are not met.

| Potassium hydroxide (1310-58-3) | |
|---------------------------------|--------------------------|
| LD50 oral rat | 214 mg/kg |
| ATE CLP (oral) | 500.000 mg/kg bodyweight |

| Sodium hydroxide (1310-73-2) | |
|------------------------------|---------------------------|
| LD50 dermal rabbit | 1350 mg/kg |
| ATE CLP (dermal) | 1350.000 mg/kg bodyweight |

Skin corrosion/irritation : Causes severe skin burns
pH: 12.6 Approximately

Serious eye damage/irritation : Causes serious eye damage
pH: 12.6 Approximately

Respiratory or skin sensitisation : Not classified
Based on available data, the classification criteria are not met

Germ cell mutagenicity : Not classified
Based on available data, the classification criteria are not met

Carcinogenicity : Not classified
Based on available data, the classification criteria are not met

Reproductive toxicity : Not classified
Based on available data, the classification criteria are not met

Specific target organ toxicity (single exposure) : Not classified
Based on available data, the classification criteria are not met

Specific target organ toxicity (repeated exposure) : Not classified
Based on available data, the classification criteria are not met

Aspiration hazard : Not classified
Based on available data, the classification criteria are not met

Potential Adverse human health effects and symptoms : Not classified
Based on available data, the classification criteria are not met.

Symptoms/injuries after inhalation : Inhalation of mists is extremely irritating to mucous membranes and upper respiratory tract.

Symptoms/injuries after skin contact : May cause severe burns. Severe skin irritant.

Symptoms/injuries after eye contact : Corrosive to eyes. Causes serious eye damage.

Symptoms/injuries after ingestion : Swallowing a small quantity of this material will result in serious health hazard. Although ingestion is an unlikely route of entry, ingestion will cause corrosion of the mouth and the upper gastrointestinal tract. Swelling of the tissues in the throat and mouth may result in extreme difficulty in swallowing. Significant swelling may restrict air passages. In all cases of ingestion, the risk of aspiration into the lungs exists. Entry into the lungs can cause permanent damage to the lungs resulting in pulmonary edema. This condition may lead to death.

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SECTION 12: Ecological information

12.1. Toxicity

Sodium hydroxide (1310-73-2)

| | |
|---------------|---|
| LC50 fishes 1 | 45.4 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static]) |
|---------------|---|

12.2. Persistence and degradability

No additional information available.

12.3. Bioaccumulative potential

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| | |
|---------------------------|------------------|
| Bioaccumulative potential | Not established. |
|---------------------------|------------------|

Potassium hydroxide (1310-58-3)

| | |
|---------|------|
| Log Pow | 0.65 |
|---------|------|

12.4. Mobility in soil

No additional information available.

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Do not contaminate water with the product or its container (Do not clean application equipment near surface water/Avoid contamination via drains from farmyards and roads). High concentration in receiving water will injure aquatic life by pH effect. Do not re-use empty containers.

Additional information : Empty containers should be thoroughly rinsed with large quantities of clean water. Never return unused material to original container. Dispose of empty containers and wastes safely. Containers may be sent for reconditioning, recycling. Dispose in a safe manner in accordance with local/national regulations. Small spills may be flushed to a sanitary sewer with copious amounts of water, if in accordance with local, state or national legislation.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT

Transport document description : UN1824 Sodium hydroxide solution, 8, II
UN-No.(DOT) : 1824
DOT NA no. : UN1824
DOT Proper Shipping Name : Sodium hydroxide solution
Department of Transportation (DOT) Hazard Classes : 8 - Class 8 - Corrosive material 49 CFR 173.136
Hazard labels (DOT) : 8 - Corrosive



Packing group (DOT) : II - Medium Danger

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| | |
|--|--|
| DOT Special Provisions (49 CFR 172.102) | : B2 - MC 300, MC 301, MC 302, MC 303, MC 305, and MC 306 and DOT 406 cargo tanks are not authorized. IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized. N34 - Aluminum construction materials are not authorized for any part of a packaging which is normally in contact with the hazardous material. T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3) TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively. |
| DOT Packaging Exceptions (49 CFR 173.xxx) | : 154 |
| DOT Packaging Non Bulk (49 CFR 173.xxx) | : 202 |
| DOT Packaging Bulk (49 CFR 173.xxx) | : 242 |
| DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) | : 1 L |
| DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) | : 30 L |
| DOT Vessel Stowage Location | : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel. |
| DOT Vessel Stowage Other | : 52 - Stow "separated from" acids |

Additional information

Other information : No supplementary information available.

ADR

No additional information available.

Transport by sea

No additional information available.

Air transport

No additional information available.

SECTION 15: Regulatory information

15.1. US Federal regulations

| | |
|---|---------|
| CIP Neutralizer™ - Alkaline Based Neutralizer | |
| RQ (Reportable quantity, section 304 of EPA's List of Lists) : | 4608 lb |
| Potassium hydroxide (1310-58-3) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| RQ (Reportable quantity, section 304 of EPA's List of Lists) : | 1000 lb |
| Sodium hydroxide (1310-73-2) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| RQ (Reportable quantity, section 304 of EPA's List of Lists) : | 1000 lb |

15.2. International regulations

Not applicable.

15.3. US State regulations

No additional information available.

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SECTION 16: Other information

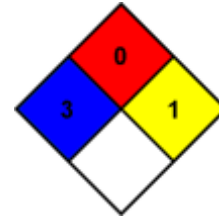
Other information : None.

| | |
|-----------------------|---|
| Acute Tox. 3 (Oral) | Acute toxicity (oral), Category 3 |
| Acute Tox. 4 (Dermal) | Acute toxicity (dermal) Category 4 |
| Eye Dam. 1 | Serious eye damage/eye irritation, Category 1 |
| Skin Corr. 1A | Skin corrosion/irritation Category 1A |
| H301 | Toxic if swallowed |
| H312 | Harmful in contact with skin |
| H314 | Causes severe skin burns and eye damage |
| H318 | Causes serious eye damage |

NFPA health hazard : 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.

NFPA fire hazard : 0 - Materials that will not burn.

NFPA reactivity : 1 - Normally stable, but can become unstable at elevated temperatures and pressures or may react with water with some release of energy, but not violently.



SDS US (GHS HazCom 2012)-Series US

The information on this sheet is not a specification and does not guarantee specific properties. The information is intended to provide general knowledge as to health and safety based upon our knowledge of the handling, storage and use of the product. It is not applicable to unusual or non-standard uses of the product or where instruction or recommendations are not followed.