GE Power & Water
Water & Process Technologies

# SAFETY DATA SHEET

# MC-4

## 1. Product and Company Identification

| | |
|---|---|
| **Material name** | **MC-4** |
| **Version #** | 2.0 |
| **Revision date** | Sep-02-2015 |
| **Supersedes date** | Oct-30-2012 |
| **Prepared by** | This SDS has been prepared by GE Water & Process Technologies Regulatory Department (1-215-355-3300). |
| **CAS #** | Mixture |
| **Product application** | Membrane cleaner |

**Company/undertaking identification**

GE Water & Process Technologies Canada
3239 Dundas Street West
Oakville, Ontario, L6M 4B2
T 905-465-3030

**Emergency telephone**

(800) 877-1940

## 2. Hazards Identification

**Emergency overview** Corrosive to skin. Corrosive to the eyes. Dusts, vapors, mists or aerosols cause respiratory tract irritation.

**Potential health effects**

| | |
|---|---|
| **Eyes** | Corrosive to eyes |
| **Skin** | Primary route of exposure Corrosive to skin |
| **Inhalation** | Primary route of exposure Dusts, vapors, mists or aerosols cause respiratory tract irritation. |
| **Ingestion** | May cause severe irritation or burning of mouth, throat, and gastrointestinal tract with severe chest and abdominal pain, nausea, vomiting, diarrhea, lethargy and collapse. Possible death when ingested in very large doses. |

**Target organs** Prolonged or repeated exposures may cause primary irritant dermatitis and/or tissue necrosis. Repeated exposure may result in respiratory sensitization.

**Signs and symptoms** Causes severe irritation, burns or tissue ulceration with subsequent scarring.

**Medical conditions aggravated by exposure** Skin disorders Respiratory diseases

## 3. Composition / Information on Ingredients

| Components | CAS # | Percent (wt/wt) |
|---|---|---|
| Sodium Carbonate | 497-19-8 | 30 - 60 |
| PROPRIETARY ALKYL SULFATE, SODIUM SALT | PROPRIETARY | 10 - 30 |
| Sulfuric acid, mono-C14-18-alkyl esters, sodium salts | 68081-98-1 | 10 - 30 |
| Sodium Hydroxide | 1310-73-2 | 7 - 13 |

**Composition comments** Information for specific product ingredients as required by the WHMIS Regulations is listed. Refer to additional sections of this MSDS for our assessment of the potential hazards of this formulation.

## 4. First Aid Measures

**First aid procedures**

| | |
|---|---|
| **Inhalation** | Move to fresh air. If breathing stops, provide artificial respiration. For breathing difficulties, oxygen may be necessary. Get medical attention immediately. |
| **Skin contact** | URGENT! Wash thoroughly with soap and water. Remove contaminated clothing. Get immediate medical attention. Thoroughly wash clothing before reuse. |
| **Eye contact** | URGENT! Immediately flush eyes with plenty of low-pressure water for at least 20 minutes while removing contact lenses. Hold eyelids apart. Get immediate medical attention. |
| **Ingestion** | If swallowed, rinse mouth with water (only if the person is conscious). Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting. Call a physician immediately. Dilute contents of stomach using 2-8 fluid ounces (60-240ml) of milk or water. |
| **Notes to physician** | Corrosive material It may not be advisable to induce vomiting. Possible mucosal damage may contraindicate the use of gastric lavage. |

## 5. Fire Fighting Measures

**Extinguishing media**

| | |
|---|---|
| **Suitable extinguishing media** | Dry chemical, CO2, water spray or regular foam. |

**Protection of firefighters**

| | |
|---|---|
| **Protective equipment for firefighters** | Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. |
| **Fire fighting equipment/instructions** | In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray. Fire fighters should wear positive pressure self-contained breathing apparatus (full face-piece type). |

**Explosion data**

| | |
|---|---|
| **Sensitivity to static discharge** | Not available. |
| **Sensitivity to mechanical impact** | Not available. |

## 6. Accidental Release Measures

| | |
|---|---|
| **Personal precautions** | Wear appropriate protective equipment and clothing during clean-up. Avoid contact with spilled material. See Section 8 of the MSDS for Personal Protective Equipment. |
| **Environmental precautions** | Avoid discharge into drains, water courses or onto the ground. Water contaminated with this product may be sent to a sanitary sewer treatment facility, or a permitted waste treatment facility, in accordance with any local agreements. |
| **Methods for cleaning up** | Ventilate area, use specified protective equipment. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Flush with plenty of water. Wet area may be slippery. Spread sand/grit. |

## 7. Handling and Storage

| | |
|---|---|
| **Handling** | corrosive to the eyes corrosive to skin |
| **Storage** | Keep container tightly closed in a dry and well-ventilated place. Avoid moisture contamination. Avoid atmospheric exposure. Store away from acids. |

## 8. Exposure Controls / Personal Protection

**Occupational exposure limits**

**US. ACGIH Threshold Limit Values**

| Components | Type | Value |
|---|---|---|
| Sodium Hydroxide (CAS 1310-73-2) | Ceiling | 2 mg/m3 |

**Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)**

| Components | Type | Value |
|---|---|---|
| Sodium Hydroxide (CAS 1310-73-2) | Ceiling | 2 mg/m3 |

**Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)**

| Components | Type | Value |
|---|---|---|
| Sodium Hydroxide (CAS 1310-73-2) | Ceiling | 2 mg/m3 |

**Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)**

| Components | Type | Value |
|---|---|---|
| Sodium Hydroxide (CAS 1310-73-2) | Ceiling | 2 mg/m3 |

**Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)**

| Components | Type | Value |
|---|---|---|
| Sodium Hydroxide (CAS 1310-73-2) | Ceiling | 2 mg/m3 |

**Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)**

| Components | Type | Value |
|---|---|---|
| Sodium Hydroxide (CAS 1310-73-2) | Ceiling | 2 mg/m3 |

**Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21)**

| Components | Type | Value |
|---|---|---|
| Sodium Hydroxide (CAS 1310-73-2) | Ceiling | 2 mg/m3 |

**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

| Components | Type | Value |
|---|---|---|
| Sodium Hydroxide (CAS 1310-73-2) | PEL | 2 mg/m3 |

**Biological limit values** No biological exposure limits noted for the ingredient(s).

**Engineering controls** Adequate ventilation to maintain air contaminants below exposure limits.

**Personal protective equipment**

**Eye/face protection** Chemical goggles are recommended. Airtight chemical goggles.

**Skin protection** Wear suitable protective clothing. Chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Chemical resistant apron. Glove selection must take into account any solvents and other hazards present. Gauntlet-type neoprene gloves. Wash off after each use. Replace as necessary.

**Respiratory protection** If air-purifying respirator use is appropriate, use any of the following particulate respirators: N95, N99, N100, R95, R99, R100, P95, P99 or P100.

## 9. Physical & Chemical Properties

**Appearance**

**Physical state** Powder

**Color** White

**Odor** Mild

**Odor threshold** Not available.

**Vapor pressure** < 0.1 mm Hg

**Vapor pressure temp.** 70 °F (21 °C)

**Vapor density** > 1 (Air = 1)

**Boiling point** Not available.

**Melting point/Freezing point** Not available.

**Solubility (water)** Not available.

**Specific gravity (70°F, 21°C)** Not available.

**Flash point** > 213 °F (> 101 °C) P-M(CC)

**Flammability limits in air, upper, % by volume** Not available.

**Flammability limits in air, lower, % by volume** Not available.

**Auto-ignition temperature** Not available.

**Evaporation rate** < 1 (Ether = 1)

**Viscosity temperature** 70 °F (21 °C)

**Percent volatile** 0 (Estimated)

## 10. Chemical Stability & Reactivity Information

| | |
|---|---|
| **Reactivity** | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| **Chemical stability** | Material is stable under normal conditions. |
| **Conditions to avoid** | Not available. |
| **Incompatible materials** | Avoid contact with acids. |
| **Hazardous decomposition products** | Oxides of carbon evolved in fire. Sulfur oxides. |
| **Possibility of hazardous reactions** | Hazardous polymerization does not occur. |

## 11. Toxicological Information

**Toxicological data**

| Product | Species | Test Results |
|---|---|---|
| MC-4 (CAS Mixture) | | |
| **Acute** | | |
| *Dermal* | | |
| LD50 | Rabbit | > 5000 mg/kg, (Calculated according to GHS additivity formula) |
| *Oral* | | |
| LD50 | Rat | 860 mg/kg, (Calculated according to GHS additivity formula (Category 4)) |

| Components | Species | Test Results |
|---|---|---|
| Sodium Carbonate (CAS 497-19-8) | | |
| **Acute** | | |
| *Dermal* | | |
| LD50 | Rabbit | > 2000 mg/kg |
| *Inhalation* | | |
| LC50 | Rat | 1.53 mg/l, 4 Hours |
| *Oral* | | |
| LD50 | Rat | 2800 mg/kg |
| Sodium Hydroxide (CAS 1310-73-2) | | |
| **Acute** | | |
| *Dermal* | | |
| LD50 | Rabbit | 1350 mg/kg |
| *Oral* | | |
| LD50 | Rabbit | > 500 mg/kg |

## 12. Ecological Information

| | |
|---|---|
| **Ecotoxicity** | No ecotoxicity data noted for the ingredient(s). |

## 13. Disposal Considerations

| | |
|---|---|
| **Disposal instructions** | Dispose of contents/container in accordance with local/regional/national/international regulations. |
| **Waste from residues / unused products** | Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner. |
| **Contaminated packaging** | Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. |

## 14. Transport Information

**TDG**

| | |
|---|---|
| **UN number** | UN1823 |
| **UN proper shipping name** | SODIUM HYDROXIDE, SOLID |
| **Transport hazard class(es)** | |
| **Class** | 8 |
| **Subsidiary risk** | - |
| **Packing group** | II |

**Environmental hazards** Not available.

**DOT**

**UN number** UN1823
**UN proper shipping name** SODIUM HYDROXIDE, SOLID
**Transport hazard class(es)**
**Class** 8
**Packing group** II
**ERG number** 154
Some containers may be exempt from Dangerous Goods/Hazmat Transport Regulations, please check BOL for exact container classification.

**IMDG**

**UN number** UN1823
**UN proper shipping name** SODIUM HYDROXIDE, SOLID
**Transport hazard class(es)**
**Class** 8
**Subsidiary risk** -
**Packing group** II
**Environmental hazards**
**Marine pollutant** No.
**EmS** Not available.
**Special precautions for user** Not available.

**IATA**

**UN number** Not available.
**UN proper shipping name** THIS CONTAINER SIZE NOT PERMITTED (BY AIRFREIGHT)
**Transport hazard class(es)**
**Class** Not available.
**Subsidiary risk** -
**Packing group** Not applicable.
**Environmental hazards** No.
**Special precautions for user** Not available.

**DOT**


**IMDG; TDG**


## 15. Regulatory Information

**WHMIS status** Controlled
**WHMIS classification** D2A - Other Toxic Effects-VERY TOXIC
D2B - Other Toxic Effects-TOXIC
E - Corrosive

**WHMIS labeling**

**Inventory status**

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|---|---|---|
| Canada | Domestic Substances List (DSL) | No |
| Canada | Non-Domestic Substances List (NDSL) | Yes |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other Information

**List of abbreviations**
Not available.

**HMIS® ratings**
Health: 3
Flammability: 0
Physical hazard: 1
Personal protection: C

**NFPA ratings**
Health: 3
Flammability: 0
Instability: 1
Special hazards: CORR

**Disclaimer**
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The 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, unless specified in the text.

**This data sheet contains changes from the previous version in section(s):**
Composition / Information on Ingredients: Disclosure Overrides
HazReg Data: International Inventories