# SAFETY DATA SHEET

## SOLUS MCA40

## 1. Identification

**Product identifier** **SOLUS MCA40**

**Other means of identification** None.

**Recommended use of the chemical and restrictions on use**

**Recommended use** Internal boiler water treatment

**Restrictions on use** Not available.

**Company/undertaking identification**

SUEZ WATER TECHNOLOGIES & SOLUTIONS PTY LIMITED
103 Raubers Road, Northgate, QLD 4013 Australia
Level 6, 63 Albert Street, Auckland, 1010 , New Zealand
Tel: 1800 064 140 (AUS) 0800 945635 (NZ)

**Emergency telephone**

+61-290372994 (Aust) +64-98010034 (NZ)

## 2. Hazard(s) identification

**Classification of the hazardous chemical**

| | | |
|---|---|---|
| **Physical hazards** | Corrosive to metals | Category 1 |
| **Health hazards** | Skin corrosion/irritation | Category 1A |
| | Serious eye damage/eye irritation | Category 1 |
| **Environmental hazards** | Not classified. | |

**Label elements, including precautionary statements**

**Hazard symbol(s)**

Corrosion

**Signal word** Danger

**Hazard statement(s)** May be corrosive to metals. Causes severe skin burns and eye damage. Causes serious eye damage.

**Precautionary statement(s)**

**Prevention** Keep only in original container. Do not breathe mist/vapors. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.

**Response** IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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 or doctor/physician. Wash contaminated clothing before reuse. Absorb spillage to prevent material damage.

**Storage** Store locked up. Store in corrosive resistant container with a resistant inner liner.

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

**Other hazards which do not result in classification** None known.

**Supplemental information** None.

## 3. Composition/information on ingredients

**Mixtures**

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| Identity of chemical ingredients | CAS number and other unique identifiers | Concentration of ingredients |
|---|---|---|
| Potassium hydroxide | 1310-58-3 | 3 - < 5 |
| Sodium sulphite | 7757-83-7 | 3 - < 5 |

## 4. First-aid measures

**Description of necessary first aid measures**

**Inhalation** Move to fresh air. Call a physician if symptoms develop or persist.

**Skin contact** Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.

**Eye contact** Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

**Ingestion** Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

**Personal protection for first-aid responders** Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

**Symptoms caused by exposure** Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

**Medical attention and special treatment** Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

## 5. Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing media** Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

**Unsuitable extinguishing media** Do not use water jet as an extinguisher, as this will spread the fire.

**Specific hazards arising from the chemical** During fire, gases hazardous to health may be formed.

**Special protective equipment and precautions for fire fighters** Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Fire fighting equipment/instructions** Move containers from fire area if you can do so without risk.

**Hazchem code** None.

**Specific methods** Use standard firefighting procedures and consider the hazards of other involved materials.

## 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel** Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist/vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

**For emergency responders** Keep unnecessary personnel away. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. Use personal protection recommended in Section 8 of the SDS.

**Environmental precautions** Avoid discharge into drains, water courses or onto the ground.

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**Methods and materials for containment and cleaning up**

Prevent entry into waterways, sewer, basements or confined areas.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

## 7. Handling and storage

**Precautions for safe handling**

Do not breathe mist/vapors. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

**Conditions for safe storage, including any incompatibilities**

Store locked up. Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Store in tightly closed container. Keep only in the original container. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls and personal protection

**Control parameters**

Follow standard monitoring procedures.

**Occupational exposure limits**

**Australia. National Workplace OELs (Workplace Exposure Standards for Airborne Contaminants, Appendix A)**

| Components | Type | Value |
|---|---|---|
| Potassium hydroxide (CAS 1310-58-3) | Ceiling | 2 mg/m3 |

**US. ACGIH Threshold Limit Values**

| Components | Type | Value |
|---|---|---|
| Potassium hydroxide (CAS 1310-58-3) | Ceiling | 2 mg/m3 |

**UK. EH40 Workplace Exposure Limits (WELs)**

| Components | Type | Value |
|---|---|---|
| Potassium hydroxide (CAS 1310-58-3) | STEL | 2 mg/m3 |

**Biological limit values**

No biological exposure limits noted for the ingredient(s).

**Appropriate engineering controls**

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

**Individual protection measures, for example personal protective equipment (PPE)**

**Eye/face protection**

Wear safety glasses with side shields (or goggles) and a face shield.

**Skin protection**

**Hand protection**

Wear appropriate chemical resistant gloves.

**Other**

Wear appropriate chemical resistant clothing.

**Respiratory protection**

In case of insufficient ventilation, wear suitable respiratory equipment.

**Thermal hazards**

Wear appropriate thermal protective clothing, when necessary.

**Hygiene measures**

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

## 9. Physical and chemical properties

**Appearance**

Liquid

**Physical state**

Liquid.

**Form**

Liquid.

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| | |
|---|---|
| **Color** | Colorless to light yellow |
| **Odor** | Slight ammonia |
| **Odor threshold** | Not available. |
| **pH (concentrated product)** | > 13 |
| **Melting point/freezing point** | -6 °C |
| **Initial boiling point and boiling range** | 104 °C |
| **Flash point** | Not available. |
| **Evaporation rate** | < 1 (Ether = 1) |
| **Flammability (solid, gas)** | Not applicable. |
| **Upper/lower flammability or explosive limits** | |
| **Explosive limit - lower (%)** | Not available. |
| **Explosive limit - upper (%)** | Not available. |
| **Vapor pressure** | 18 mm Hg |
| **Vapor pressure temp.** | 21 °C |
| **Vapor density** | < 1 (Air = 1) |
| **Relative density** | 1.14 |
| **Relative density temperature** | 21 °C |
| **Solubility(ies)** | |
| **Solubility (water)** | 100 % |
| **Partition coefficient (n-octanol/water)** | Not available. |
| **Auto-ignition temperature** | Not available. |
| **Decomposition temperature** | Not available. |
| **Viscosity** | 11 cps |
| **Viscosity temperature** | 21 °C |
| **Other physical and chemical parameters** | |
| **Explosive properties** | Not explosive. |
| **Oxidizing properties** | Not oxidizing. |
| **pH in aqueous solution** | 12.5 (5% SOL.) |
| **Pour point** | -3 °C |
| **Specific gravity** | 1.14 |
| **VOC** | 0 % (Estimated) |

## 10. Stability and reactivity

| | |
|---|---|
| **Reactivity** | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| **Chemical stability** | Material is stable under normal conditions. |
| **Possibility of hazardous reactions** | No dangerous reaction known under conditions of normal use. |
| **Conditions to avoid** | Contact with incompatible materials. |
| **Incompatible materials** | Strong oxidizing agents. Metals. |
| **Hazardous decomposition products** | No hazardous decomposition products are known. |

## 11. Toxicological information

**Information on possible routes of exposure**

| | |
|---|---|
| **Inhalation** | May cause irritation to the respiratory system. Prolonged inhalation may be harmful. |
| **Skin contact** | Causes severe skin burns. |
| **Eye contact** | Causes serious eye damage. |
| **Ingestion** | Causes digestive tract burns. |

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**Symptoms related to exposure** Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

**Acute toxicity** Not known.

| Product | Species | Test Results |
|---|---|---|
| SOLUS MCA40 | | |
| **Acute** | | |
| **Dermal** | | |
| LD50 | Rabbit | > 5000 mg/kg (Calculated according to GHS additivity formula) |
| **Inhalation** | | |
| *Mist* | | |
| LC50 | Rat | > 5.5 mg/l, 4 Hours (Calculated according to GHS additivity formula) |
| **Oral** | | |
| LD50 | Rat | > 5000 mg/kg (Calculated according to GHS additivity formula) |

| Components | Species | Test Results |
|---|---|---|
| Potassium hydroxide (CAS 1310-58-3) | | |
| **Acute** | | |
| **Oral** | | |
| LD50 | Rat | 333 mg/kg |
| Sodium sulphite (CAS 7757-83-7) | | |
| **Acute** | | |
| **Dermal** | | |
| LD50 | Rabbit | > 2000 mg/kg |
| **Inhalation** | | |
| LC50 | Rat | > 5.5 mg/l, 4 Hour |
| **Oral** | | |
| LD50 | Rat | 2610 mg/kg |

**Skin corrosion/irritation** Causes severe skin burns and eye damage.

**Serious eye damage/irritation** Causes serious eye damage.

**Respiratory or skin sensitization**

**Respiratory sensitization** Not a respiratory sensitizer.

**Skin sensitization** This product is not expected to cause skin sensitization.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity**

**IARC Monographs. Overall Evaluation of Carcinogenicity**

Sodium sulphite (CAS 7757-83-7) 3 Not classifiable as to carcinogenicity to humans.

**Reproductive toxicity** This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity - single exposure** Not classified.

**Specific target organ toxicity - repeated exposure** Not classified.

**Aspiration hazard** Not an aspiration hazard.

**Chronic effects** Prolonged inhalation may be harmful.

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### 12. Ecological information

**Ecotoxicity** The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

| Product | | Species | Test Results |
|---|---|---|---|
| SOLUS MCA40 | | | |
| **Aquatic** | | | |
| Crustacea | LC50 | Daphnia magna | 5000 mg/l, 48 hour (pH adjusted) |
| | NOEL | Daphnia magna | 2500 mg/l, 48 hour (pH adjusted) |
| Fish | LC50 | Fathead Minnow | 3081.5 mg/l, 96 hour (pH adjusted) |
| | | Rainbow Trout | 1649.4 mg/l, 96 hour (pH adjusted) |
| | NOEL | Fathead Minnow | 2500 mg/l, 96 hour (pH adjusted) |
| | | Rainbow Trout | 1250 mg/l, 96 hour (pH adjusted) |

**Persistence and degradability** No data is available on the degradability of any ingredients in the mixture.

No data is available on the degradability of any ingredients in the mixture.

- **COD (mgO2/g)** 24 (calculated data)
- **BOD 28 (mgO2/g)** 2 (calculated data)
- **Closed Bottle Test (% Degradation in 28 days)** 6 (calculated data)
- **TOC (mg C/g)** 7 (calculated data)

**Bioaccumulative potential**

**Mobility in soil** No data available for this product.

**Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

### 13. Disposal considerations

**Disposal methods** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Residual waste** Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging** Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

### 14. Transport information

**ADG**

- **UN number** 1814
- **UN proper shipping name** POTASSIUM HYDROXIDE SOLUTION
- **Transport hazard class(es)**
  - **Class** 8
  - **Subsidiary risk** -
- **Packing group** II
- **Environmental hazards** Not available.
- **Hazchem code** 2R
- **Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.

**IATA**

- **UN number** 1814
- **UN proper shipping name** Potassium hydroxide solution
- **Transport hazard class(es)**
  - **Class** 8
  - **Subsidiary risk** -
- **Packing group** II
- **Environmental hazards** No.
- **ERG Code** 154

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**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.
Some containers may not be approved under IATA, please check BOL for exact container classification.

**IMDG**

| | |
|---|---|
| **UN number** | 1814 |
| **UN proper shipping name** | POTASSIUM HYDROXIDE SOLUTION |
| **Transport hazard class(es)** | |
| **Class** | 8 |
| **Subsidiary risk** | - |
| **Packing group** | II |
| **Environmental hazards** | |
| **Marine pollutant** | No. |
| **EmS** | F-A, S-B |
| **Special precautions for user** | Read safety instructions, SDS and emergency procedures before handling. |

RQ

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

**ADG**


**IATA; IMDG**


## 15. Regulatory information

**Safety, health and environmental regulations**

**National regulations** This Safety Data Sheet was prepared in accordance with Australia Model Code of Practice for the preparation of Safety Data Sheets for Hazardous Chemicals.

Group Standard - Water Treatment Chemicals (Corrosive) - HSR002681

**Australia Medicines & Poisons Appendix A**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Appendix B**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Appendix D**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Appendix E**

Potassium hydroxide (CAS 1310-58-3)

**Australia Medicines & Poisons Appendix F**

Potassium hydroxide (CAS 1310-58-3)

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**Australia Medicines & Poisons Appendix G**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Appendix H**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Appendix I**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Appendix J**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Appendix K**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Schedule 10**

Potassium hydroxide (CAS 1310-58-3)

**Australia Medicines & Poisons Schedule 2**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Schedule 3**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Schedule 4**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Schedule 5**

Potassium hydroxide (CAS 1310-58-3)

**Australia Medicines & Poisons Schedule 6**

Potassium hydroxide (CAS 1310-58-3)

**Australia Medicines & Poisons Schedule 7**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Schedule 8**

Poisons schedule number not allocated.

**Australia Medicines & Poisons Schedule 9**

Poisons schedule number not allocated.

**High Volume Industrial Chemicals (HVIC)**

| | |
|---|---|
| Potassium hydroxide (CAS 1310-58-3) | 1000 - 9999 TONNES See the regulation for additional information. |
| Sodium sulphite (CAS 7757-83-7) | 10000 - 99999 TONNES See the regulation for additional information. |

**Importation of Ozone Depleting Substances (Customs(Prohibited imports) Regulations 1956, Schedule 10)**

Not listed.

**National Pollutant Inventory (NPI) substance reporting list**

Not listed.

**Prohibited Carcinogenic Substances**

Not regulated.

**Prohibited Substances (National Model Regulation for the control of Workplace Hazardous Substances, Schedule 2 NOHSC:1005 (1994) as amended)**

Not listed.

**Resricted Importation of Organochlorine Chemicals (Customs(Prohibited Imports) Regulations 1956, Schedule 9)**

Not listed.

**Restricted Carcinogenic Substances**

Not regulated.

**International regulations**

**Stockholm Convention**

Not applicable.

**Rotterdam Convention**

Not applicable.

**Kyoto protocol**

Not applicable.

**Montreal Protocol**

Not applicable.

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**Basel Convention**

Not applicable.

**International Inventories**

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|---|---|---|
| Australia | Australian Inventory of Industrial Chemicals (AICIS) | Yes |
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | No |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | Yes |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | No |
| Korea | Existing Chemicals List (ECL) | Yes |
| New Zealand | New Zealand Inventory | Yes |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | No |
| Taiwan | Taiwan Chemical Substance Inventory (TCSI) | 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).

**NSF Registered and/or meets USDA (according to 1998 guidelines):**

Registration No. – 152272
Category Code(s):
G5 Cooling and retort water treatment products
G6 Boiler treatment products, steam line products – food contact

## 16. Other information

**Issue date**

02-December-2021

**Revision date**

02/12/2021

**Key abbreviations or acronyms used**

AICIS: Australian Inventory of Industrial Chemicals.

**References:**

No data available

**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.

**Revision information**

Product and Company Identification: Product and Company Identification
Composition / Information on Ingredients: Ingredients
Physical & Chemical Properties: Multiple Properties
Toxicological Information: Toxicological Data
Transport Information: Material Transportation Information
Regulatory Information: Risk Phrases - Classification
HazReg Data: Europe - EU
GHS: Classification