



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

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2. Hazard(s) identification

Classification of the hazardous chemical

Physical hazardsCorrosive to metalsCategory 1Health hazardsSkin corrosion/irritationCategory 1ASerious eye damage/eye irritationCategory 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.

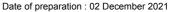
Supplemental information None.

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.

Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If Ingestion

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.

Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may Symptoms caused by exposure

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

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

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.

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



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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.

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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 Ceiling 2 mg/m3

1310-58-3)

US. ACGIH Threshold Limit Values

 Components
 Type
 Value

 Potassium hydroxide (CAS
 Ceiling
 2 mg/m3

1310-58-3)

UK. EH40 Workplace Exposure Limits (WELs)
Components Type Value

Potassium hydroxide (CAS STEL 2 mg/m3

1310-58-3)

Biological limit values

Appropriate engineering

controls

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

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 Not available. Odor threshold

> 13 pH (concentrated product) Melting point/freezing point -6 °C Initial boiling point and boiling 104 °C

range

Flash point Not available. < 1 (Ether = 1) **Evaporation rate** Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits Explosive limit - lower (%) Not available.

Not available.

Vapor pressure 18 mm Hg Vapor pressure temp. 21 °C

Vapor density < 1 (Air = 1)

Relative density 1.14 21 °C Relative density temperature

Explosive limit - upper (%)

Solubility(ies)

Solubility (water) 100 %

Not available. **Partition coefficient**

(n-octanol/water)

Not available. **Auto-ignition temperature Decomposition temperature** Not available. 11 cps **Viscosity**

21 °C Viscosity temperature

Other physical and chemical parameters

Explosive properties Not explosive. Not oxidizing. **Oxidizing properties** pH in aqueous solution 12.5 (5% SOL.)

Pour point -3 °C Specific gravity 1.14

VOC 0 % (Estimated)

10. Stability and reactivity

The product is stable and non-reactive under normal conditions of use, storage and transport. Reactivity

Chemical stability Material is stable under normal conditions.

Possibility of hazardous

Hazardous decomposition

reactions

No dangerous reaction known under conditions of normal use.

Conditions to avoid Contact with incompatible materials.

Incompatible materials Strong oxidizing agents. Metals.

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

<u>Acute</u>

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)

<u>Acute</u>

Oral

LD50 Rat 333 mg/kg

Sodium sulphite (CAS 7757-83-7)

<u>Acute</u>

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 toxicityThis product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity -

single exposure

Not classified.

Specific target organ toxicity -

repeated exposure

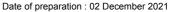
Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.



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1250 mg/l, 96 hour (pH adjusted)



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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 3081.5 mg/l, 96 hour (pH adjusted) **Fathead Minnow** Rainbow Trout 1649.4 mg/l, 96 hour (pH adjusted) **NOEL** Fathead Minnow 2500 mg/l, 96 hour (pH adjusted)

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

Rainbow Trout

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 (% 6 (calculated data)
Degradation in 28 days)

- 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

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 || ||

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

Not established.

Transport hazard class(es)

Class 8
Subsidiary risk Packing group ||
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

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)

Sodium sulphite (CAS 7757-83-7)

1000 - 9999 TONNES See the regulation for additional information.

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.

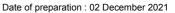
Kyoto protocol

Not applicable.

Montreal Protocol

Not applicable.





On inventory (yes/no)*



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Basel Convention

Not applicable.

International Inventories

Country(s) or region

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

Inventory of Existing and New Chemical Substances (ENCS) Japan No Existing Chemicals List (ECL) Korea Yes New Zealand New Zealand Inventory Yes

Philippines Philippine Inventory of Chemicals and Chemical Substances No

Taiwan Chemical Substance Inventory (TCSI) Taiwan 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

Inventory name

(PICCS)

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**

