

## SAFETY DATA SHEET

### 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

#### 1.1 Product identifier

**Product name** MAK-MFC4

**Synonyms** MFC4

#### 1.2 Uses and uses advised against

**Uses** WASTE WATER TREATMENT

#### 1.3 Details of the supplier of the product

**Supplier name** MAK INDUSTRIAL WATER SOLUTIONS PTY LTD

**Address** 36 Beringarra Ave, Malaga, Western Australia, 6090, AUSTRALIA

**Telephone** +61 8 9249 8007

**Fax** +61 8 9249 8004

**Email** [service.wa@makwater.com.au](mailto:service.wa@makwater.com.au)

**Website** <http://makwater.com.au>

#### 1.4 Emergency telephone numbers

**Emergency** +61 8 9249 8007

### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

##### Physical Hazards

Not classified as a Physical Hazard

##### Health Hazards

Skin Corrosion/Irritation: Category 2

Serious Eye Damage / Eye Irritation: Category 2A

##### Environmental Hazards

Not classified as an Environmental Hazard

#### 2.2 GHS Label elements

**Signal word** WARNING

**Pictograms**



##### Hazard statements

H315 Causes skin irritation.

H319 Causes serious eye irritation.

##### Prevention statements

P264 Wash thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

**PRODUCT NAME    MAK-MFC4****Response statements**

P302 + P352      IF ON SKIN: Wash with plenty of water.  
P305 + P351 + P338      IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P321      Specific treatment is advised - see first aid instructions.  
P332 + P337 + P313      If skin or eye irritation occurs: Get medical advice/ attention.  
P362 + P364      Take off contaminated clothing and wash it before reuse.

**Storage statements**

None allocated.

**Disposal statements**

None allocated.

**2.3 Other hazards**

No information provided.

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**3. COMPOSITION/ INFORMATION ON INGREDIENTS**

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**3.1 Substances / Mixtures**

| Ingredient                | CAS Number | EC Number | Content   |
|---------------------------|------------|-----------|-----------|
| ALUMINIUM CHLORIDE, BASIC | 1327-41-9  | 215-477-2 | 40 to 60% |
| PROPRIETARY INGREDIENT(S) | -          | -         | Remainder |
| WATER                     | 7732-18-5  | 231-791-2 | <60%      |

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**4. FIRST AID MEASURES**

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**4.1 Description of first aid measures**

**Eye**      If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation**      If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin**      If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion**      For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once).

**First aid facilities**      Eye wash facilities and safety shower should be available.

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

See Section 11 for more detailed information on health effects and symptoms.

**4.3 Immediate medical attention and special treatment needed**

Treat symptomatically.

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**5. FIRE FIGHTING MEASURES**

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**5.1 Extinguishing media**

Use an extinguishing agent suitable for the surrounding fire.

**5.2 Special hazards arising from the substance or mixture**

Non flammable. May evolve carbon oxides and hydrocarbons when heated to decomposition. May evolve aluminium oxides and hydrogen chloride gas when heated to decomposition.

**5.3 Advice for firefighters**

Treat as per requirements for surrounding fires. Evacuate area and contact emergency services. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

**5.4 Hazchem code**

None allocated.

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**6. ACCIDENTAL RELEASE MEASURES**

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

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS.

### **6.2 Environmental precautions**

Prevent product from entering drains and waterways.

### **6.3 Methods of cleaning up**

Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal. Slippery when spilt.

### **6.4 Reference to other sections**

See Sections 8 and 13 for exposure controls and disposal.

## **7. HANDLING AND STORAGE**

### **7.1 Precautions for safe handling**

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

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

Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use.

### **7.3 Specific end uses**

No information provided.

## **8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

### **8.1 Control parameters**

#### **Exposure standards**

| Ingredient                       | Reference      | TWA |                   | STEL |                   |
|----------------------------------|----------------|-----|-------------------|------|-------------------|
|                                  |                | ppm | mg/m <sup>3</sup> | ppm  | mg/m <sup>3</sup> |
| Aluminium & compounds            | SWA [Proposed] | --  | 1                 | --   | --                |
| Aluminium, soluble salts (as Al) | SWA [AUS]      | --  | 2                 | --   | --                |

### **Biological limits**

No biological limit values have been entered for this product.

### **8.2 Exposure controls**

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain vapour levels below the recommended exposure standard.

### **PPE**

|                    |                                                                                     |
|--------------------|-------------------------------------------------------------------------------------|
| <b>Eye / Face</b>  | Wear splash-proof goggles.                                                          |
| <b>Hands</b>       | Wear PVC or rubber gloves.                                                          |
| <b>Body</b>        | When using large quantities or where heavy contamination is likely, wear coveralls. |
| <b>Respiratory</b> | Where an inhalation risk exists, wear a Type A (Organic vapour) respirator.         |



## **9. PHYSICAL AND CHEMICAL PROPERTIES**

### **9.1 Information on basic physical and chemical properties**

|                     |                               |
|---------------------|-------------------------------|
| <b>Appearance</b>   | CLEAR TO SLIGHTLY HAZY LIQUID |
| <b>Odour</b>        | SLIGHT ODOUR                  |
| <b>Flammability</b> | NON FLAMMABLE                 |
| <b>Flash point</b>  | NOT RELEVANT                  |

## 9.1 Information on basic physical and chemical properties

|                           |               |
|---------------------------|---------------|
| Boiling point             | 100°C         |
| Melting point             | NOT AVAILABLE |
| Evaporation rate          | NOT AVAILABLE |
| pH                        | 3.5 to 4.0    |
| Vapour density            | NOT AVAILABLE |
| Relative density          | 1.30 to 1.35  |
| Solubility (water)        | SOLUBLE       |
| Vapour pressure           | NOT AVAILABLE |
| Upper explosion limit     | NOT RELEVANT  |
| Lower explosion limit     | NOT RELEVANT  |
| Partition coefficient     | NOT AVAILABLE |
| Autoignition temperature  | NOT AVAILABLE |
| Decomposition temperature | NOT AVAILABLE |
| Viscosity                 | NOT AVAILABLE |
| Explosive properties      | NOT AVAILABLE |
| Oxidising properties      | NOT AVAILABLE |
| Odour threshold           | NOT AVAILABLE |

## 9.2 Other information

|             |                      |
|-------------|----------------------|
| % Volatiles | 50 % (Approximately) |
|-------------|----------------------|

# 10. STABILITY AND REACTIVITY

## 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

## 10.2 Chemical stability

Stable under recommended conditions of storage.

## 10.3 Possibility of hazardous reactions

Polymerization will not occur.

## 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

## 10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites) and acids (e.g. nitric acid).

## 10.6 Hazardous decomposition products

May evolve carbon oxides and hydrocarbons when heated to decomposition.

# 11. TOXICOLOGICAL INFORMATION

## 11.1 Information on toxicological effects

**Acute toxicity** Acute oral exposure may result in irritation of the mouth, throat, oesophagus and gastrointestinal tract.

### Information available for the ingredients:

| Ingredient                | Oral LD50          | Dermal LD50        | Inhalation LC50 |
|---------------------------|--------------------|--------------------|-----------------|
| ALUMINIUM CHLORIDE, BASIC | > 2000 mg/kg (rat) | > 2000 mg/kg (rat) | --              |

|                                 |                                                                                                              |
|---------------------------------|--------------------------------------------------------------------------------------------------------------|
| <b>Skin</b>                     | Irritating to the skin. Contact may result in irritation, redness, rash and dermatitis.                      |
| <b>Eye</b>                      | Causes serious eye irritation. Contact may result in irritation, lacrimation, pain and redness.              |
| <b>Sensitisation</b>            | Not classified as causing skin or respiratory sensitisation.                                                 |
| <b>Mutagenicity</b>             | Not classified as a mutagen.                                                                                 |
| <b>Carcinogenicity</b>          | Not classified as a carcinogen.                                                                              |
| <b>Reproductive</b>             | Not classified as a reproductive toxin.                                                                      |
| <b>STOT - single exposure</b>   | Over exposure may result in irritation of the nose and throat, coughing, dizziness, drowsiness and headache. |
| <b>STOT - repeated exposure</b> | Not classified as causing organ damage from repeated exposure.                                               |

**Aspiration** Not classified as causing aspiration.

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## 12. ECOLOGICAL INFORMATION

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### 12.1 Toxicity

Not a persistent pollutant; can cause coagulation of solids in aqueous suspension, especially when highly diluted by the water in which the solids are suspended. Aluminium compounds are common in most soils and are the principle components of Bauxite and Gibbsite, which are common, naturally occurring minerals. When diluted by copious quantities of water (for example, to the point that the concentration is less than about 100 grams per cubic meter), this product will hydrolyze rapidly to form aluminium hydroxide, which can be expected to become a part of the natural soil profile if not recovered. When not highly diluted with water, this product may be slow to hydrolyze and may form a mixture of partially soluble aluminium species and heavy floc of aluminium hydroxide. Until further diluted, this mixture could affect marine life by clogging sensitive respiratory mechanisms in a similar fashion to muds and clays and possibly by toxic effects that are not yet well understood.

### 12.2 Persistence and degradability

No information provided.

### 12.3 Bioaccumulative potential

This product does not bioaccumulate.

### 12.4 Mobility in soil

No information provided.

### 12.5 Other adverse effects

No information provided.

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## 13. DISPOSAL CONSIDERATIONS

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### 13.1 Waste treatment methods

**Waste disposal** For small amounts, absorb with sand, vermiculite or similar and dispose of to an approved landfill site. Contact the manufacturer/supplier for additional information if disposing of large quantities (if required).

**Legislation** Dispose of in accordance with relevant local legislation.

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## 14. TRANSPORT INFORMATION

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### **NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

|                                    | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|------------------------------------|----------------------|----------------------------|-----------------------------|
| <b>14.1 UN Number</b>              | None allocated.      | None allocated.            | None allocated.             |
| <b>14.2 Proper Shipping Name</b>   | None allocated.      | None allocated.            | None allocated.             |
| <b>14.3 Transport hazard class</b> | None allocated.      | None allocated.            | None allocated.             |
| <b>14.4 Packing Group</b>          | None allocated.      | None allocated.            | None allocated.             |

### 14.5 Environmental hazards

No information provided.

### 14.6 Special precautions for user

**Hazchem code** None allocated.

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## 15. REGULATORY INFORMATION

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### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safe Work Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals (GHS Revision 7).

## 16. OTHER INFORMATION

**Additional information** RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

**PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:**  
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

**HEALTH EFFECTS FROM EXPOSURE:**  
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

|                      |                   |                                                                                                 |
|----------------------|-------------------|-------------------------------------------------------------------------------------------------|
| <b>Abbreviations</b> | ACGIH             | American Conference of Governmental Industrial Hygienists                                       |
|                      | CAS #             | Chemical Abstract Service number - used to uniquely identify chemical compounds                 |
|                      | CNS               | Central Nervous System                                                                          |
|                      | EC No.            | EC No - European Community Number                                                               |
|                      | EMS               | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)                   |
|                      | GHS               | Globally Harmonized System                                                                      |
|                      | GTEPG             | Group Text Emergency Procedure Guide                                                            |
|                      | IARC              | International Agency for Research on Cancer                                                     |
|                      | LC50              | Lethal Concentration, 50% / Median Lethal Concentration                                         |
|                      | LD50              | Lethal Dose, 50% / Median Lethal Dose                                                           |
|                      | mg/m <sup>3</sup> | Milligrams per Cubic Metre                                                                      |
|                      | OEL               | Occupational Exposure Limit                                                                     |
|                      | pH                | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
|                      | ppm               | Parts Per Million                                                                               |
|                      | STEL              | Short-Term Exposure Limit                                                                       |
|                      | STOT-RE           | Specific target organ toxicity (repeated exposure)                                              |
|                      | STOT-SE           | Specific target organ toxicity (single exposure)                                                |
|                      | SUSMP             | Standard for the Uniform Scheduling of Medicines and Poisons                                    |
|                      | SWA               | Safe Work Australia                                                                             |
|                      | TLV               | Threshold Limit Value                                                                           |
|                      | TWA               | Time Weighted Average                                                                           |

**Report status** This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**PRODUCT NAME    MAK-MFC4**

**Prepared by**

Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: [info@rmt.com.au](mailto:info@rmt.com.au)  
Web: [www.rmtglobal.com](http://www.rmtglobal.com)

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